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THE BUILDER

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PLANNING THE INDUSTRY

WE have received a Broadsheet, No. 183,* from P E P (Political and Economic Planning) which deals with Professional Organisation in Building in a way which will excite the admiration of most of those who are giving serious thought to the future welfare of building.

It is a common thing for all trades and professions to imagine their own to be the most important in the social scheme; but we believe that even those most remote from building will need little persuasion that building after the war will be the "king-pin" of the new world structure. In whatever direction we turn to consider improving the world which human folly has brought so near to disaster, we find that we have to think in terms of building, in the narrower meaning of the term. In fact, this is not a new urge, brought about by the events and conditions of war, but has always been a fact right down the long history of human development; and it is because we have forgotten its supreme importance to human progress for so long a time that we now find our problem unnecessarily acute. Such a little extra thought, a little willingness to think less of our own individual interests and more of the common good, would have left us in better shape to clear up the mess which ruthless warfare must leave behind it.

The reflection that it is this apparently incurable inability to use our heritage aright which has induced the Wisdom of the Universe to strike so hardly upon our easy-going complacency must occur to most of us at times, and the thought will harden our resolution to seize opportunity as it passes in the near and distant future.

Planning thus assumes a more noble meaning than the remote mysteries of the drawing office have yet given it, and it becomes the product of human thought and wisdom if it is to achieve the urgent task that awaits it. The Broadsheet to which we have referred seems to take a long step in the right direction, and it contains so much of value that we commend it to the careful attention of our readers.

This is not the place in which to summarise its contents (it is referred to in greater detail on page 89 of this issue), for they are bound to suffer by such treatment, but we may well draw attention to one or two governing aspects of its argument which we believe point very truly in the right direction. The first is that aspect of professional organisation which treats the term in its widest sense. Rightly speaking, all trades have some professional aspect, in that the good tradesman has some contribution of trained skill to offer beyond the mere buying and selling of commodities on commission. In recent years there has been far less tendency to draw a rigid line between the professional man and the tradesman. Probably the most useful thing the Rotary movement has done is to lay emphasis on the fact that conscience is not the monopoly of the professional man, and that there is a wide scope for personal service in the work of the smallest trader.

But in no trade is this element more outstanding than in the building trade, where the part of the master builder contains so much more than the buying of materials, the payment of wages, and the assembly of the parts into the shape instructed. No builder whose eye has been fixed upon the balance sheet to the exclusion of all else has ever got out of life the pleasure which the creative instinct of a human being can always give him.

It is therefore with hearty approval that we note the manner in which this Broadsheet treats the professional aspect of building as going far beyond the sphere of the architect and the quantity surveyor. There is no attempt, of course, to belittle the part which these recognised professional elements cover, but there is no moat dug out around their estate to keep them untouched by those elements often so lightly thought of as "trade." The idea of a team in which each contributes to the winning of the game, though one must be captain, seems to be the only way in which to foresee building going ahead with the profit the community can fully share. If there is any warning needed to check a tendency for separate trades and professions to lock themselves away in separate council chambers to plan for their own ends, this would seem to be the right one. Fortunately there are signs that those in high places are alive to their interdependence.

Another healthy reminder of the commonsense of planning is the emphasis laid upon the essential difference between "haste" and "speed." Too often in this war the first quality has been mistaken for the second, and the second has suffered through the first. The purpose of planning is, or must now be, to create speed among other things, while haste is generally the antithesis of effective planning.

One other useful point stands out in this Report, in comparing what is described as the "pool" system with the "group" system. The first is that rigid demarcation of responsibilities which attempts to centralise all specialist services for all purposes. This is generally a sign of bureaucracy at its worst, and remote control breeds delay and inconsistency such as we shall not be able to tolerate. The group system, on the other hand, breaks up that huge and cumbersome machine into units within the limits of human management, and brings the team idea fully to the front.

These are, however, but a few points out of a most valuable and comprehensive work, and it would be a mistake to imagine that they have indicated the scope of its survey. In any case, if these are not the right lines upon which to base our future plans, it is certain that we shall have to think along equally broad lines, and in a manner as free from prejudices which easier times have encouraged.

We offer our congratulations and good wishes to P E P in the work they have undertaken.

* 16, Queen's Gate, London, S.W.1.

NOTES AND NEWS

Mediæval Work at Westminster School.

When the college dormitory at Westminster School was destroyed by fire last May, the fall of the coved plaster ceiling uncovered parts of the inner wall face which had presumably been concealed ever since the building was completed more than 200 years ago. In one place (according to a correspondent of *The Times*) there appears on the clean stone surface a bold sketch in red crayon. It shows a heraldic lion, sitting, and supporting with outstretched paw something which may represent the edge of a shield.

There is a vigorous vitality about the drawing, and as it must have been done while the building was in course of erection it might well be the handiwork of the architect, Lord Burlington, himself. "School," the former dormitory of the monks, was also burned out, perhaps for the fourth time in its history. Most of the names of Old Westminsters painted on the walls have perished, but others, cut in stone and long hidden by panelling, have appeared. Much interesting mediæval work has also been revealed. The Pancake Bar was found lying among the charred débris of the roof, and has been preserved. The walls of these two notable buildings still stand firm, and if no worse damage occurs this will make it possible after the war to restore them.

Standard Metal Windows and Doors.

The British Standards Institution has issued War Emergency B.S. 990-1941, for Metal Windows and Doors. Prepared in collaboration with the British Metal Window Manufacturers' Association, Ltd., the Specification provides for metal windows and metal doors for all war-time purposes. The approved designs are reproduced on page 86 of this issue.

Records of Oxfordshire Architecture.

In response to the appeal of the National Buildings Record for local organisation in recording English architecture, a committee of the Oxfordshire Rural Community Council is engaged on the collection of perspective and measured drawings, photographs, and other records of secular buildings in the county. The recording of Oxfordshire churches is in the hands of a separate organisation, and has made considerable progress. The president, Mr. W. M. Goodenough, has issued an appeal to all owners of property in the county to communicate with the secretary, Oxfordshire Rural Community Council, Barnett House, 35, Beaumont-street, Oxford.

New Year Honours.

The following have been accorded Honours in the New Year List, additional to those announced in our issue for January 9: Knighthood: Mr. H. F. Brand, President, British Employers' Confederation; C.B.E.: Mr. F. H. Brown, Warwickshire County Surveyor; O.B.E.: The Hon. Humphrey Pakington, F.R.I.B.A.; and M.B.E.: Mr. F. Corby, Past President, Eastern Federation of Building Trades Employers.

Registered Builders: New Labour Return.

A new return of operatives in their employment has to be made immediately to the Ministry of Works and Buildings by all provisionally registered building and civil engineering contractors. Further details are given on page 90.

Professional Announcement.

Messrs. Gardiner and Theobald, chartered quantity surveyors, have now returned to their London offices, 96, Gower-street, W.C.1, and their telephone number remains as formerly, Euston 3956/7.

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COMING EVENTS.

Tuesday, January 27.

Federation of Greater London Master Builders. Quarterly Lunch, 12.45 p.m. First Annual Ordinary Meeting, 2.45 p.m. Connaught Rooms, W.C.

Housing Centre Lunch. Professor Sargant Florence on "Location of Industry." 13, Suffolk-street, S.W. 1 p.m.

Institution of Municipal and County Engineers. Discussion on "Builders' Emergency Organisation." Town Hall, Manchester. 2.30 p.m.

Wednesday, January 28.

A.A. School of Architecture. Miss Jane Drew on "Changing Technique in Town Planning." At Mount House, Barnet.

Royal Society of Arts. Mr. F. R. Yerbury on "Adaptation of Design to Standardisation and Mass Production." Adelphi. 1.45 p.m.

Friday, January 30.

Institution of Municipal and County Engineers. Open Discussion on "Post-war Planning: Co-operation with Architects." James Watt Institute, Birmingham. 3 p.m.

A.A.S.T.A. Mr. Jack Ryan on "Common Interests of Operatives and Technicians." 30, Great Newport-street, W.C.2. 6.30 p.m.

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

David Barclay Niven.

To the Editor of *The Builder*.

Sir,—I should like to add my appreciation to that of G. M. Aylwin on the work of David Barclay Niven. The amount of research which he did alone was amazing. He worked on the "Ring Road Round London" before anyone else thought of it. He used to go out early each morning to the outskirts where he thought the road might come, and when he got to the office we were given this particular road to plot on the map; in time he had surveyed, alone, the whole of the suburbs of London—an amazing effort. He never troubled to reap what he had sown; he left this for others, because he was always starting something new.

He was largely responsible for the formation of the London Society, and was its first Chairman. He was a prime mover in the formation of the Town Planning Institute.

I know of no one man who has done so much behind the scenes for the good of architecture as Niven, and he was an inspiration to all who worked under him and to those who came in contact with him. His example of the influence one man can have on those working under him is a thing we could all do well to emulate.

Arthur Wm. Kenyon.

21, Bedford-square, W.C.1.

R.E. Commissions.

To the Editor of *The Builder*.

Sir,—With reference to the letter published in last week's issue of *The Builder* from the War Office to the R.I.B.A., surely it has been sent to the wrong Institute. I should imagine that for experience in railway construction or track maintenance, locomotive operating, mechanical workshop and marine engineering, one would look to the Institution of Mechanical Engineers, or the Institution of Civil Engineers, instead of the Royal Institute of British Architects. Can it be that the War Office wishes still to try to fit round pegs in square holes?

A. Wright.

Sittingbourne, Kent.

"The Builder" for the Forces.

To the Editor of *The Builder*.

Sir,—It is believed that you have an arrangement for forwarding old issues of *The Builder* to persons in the Forces who were associated with the industry.

If you will kindly advise us of the address to which the magazines should be sent we shall be pleased to make up a parcel from time to time.

J. Webley,

For Bierrum & Partners, Ltd.

10, Sudbury Hill,

Harrow on the Hill, Middlesex.

*** Members of the Forces who would like to avail themselves of this generous offer are invited to apply to the Editor of *The Builder*, 4, Catherine-street, Aldwych, W.C.1.

THE LOST ART OF FENESTRATION

I.

BY PERCY J. WALDRAM, F.S.I.

THE art or science of fenestration may be said to have died with Queen Anne. At that time British architects and builders had succeeded in evolving a well-known type of window which lit, adequately and pleasantly, domestic interiors of the dimensions and proportions then customary. Content with this achievement, succeeding generations of architects appear to have ceased to trouble about efficiency.

The type of window may have been evolved without conscious effort, or even by accident; but it was more probably the result of careful consideration and trial and error, although without any aid from science as we know it, for technical literature did not then exist, and everything had to be worked out laboriously by the most crude methods.

One reason for presuming studied evolution of the late seventeenth and early eighteenth century window is that it is typical of the essential fitness, the delightfully perfect adaptation of means to an end, which characterises so many of the productions of that golden age of British craftsmanship. Whether we consider a chair by Hepplewhite or Chippendale, a cathedral by Wren, a harmony by Purcell or a navy by Pepys, the achievement is invariably the result of careful painstaking, personal work with little or no extraneous assistance. Those were by no means easy days judged by present standards. The apparatus available to Hooke and Newton in laying the foundations of modern physical science would excite the derision of a modern schoolboy. Woodworkers then still used the mediæval tools which had served their forefathers. Wren imparted his ideas to highly skilled craftsmen by details sketched on a board on the spot. Melodies had to be blended into harmony on a harpsichord with a few simple wind instruments, and Pepys has told us how he often worked far into the night writing out in his own hand those carefully detailed rules of naval administration which are still in force almost unaltered at the Admiralty.

Perhaps it was the very absence of material help, calling as it did for self-reliant initiative, which gave the craftsman that personal pride in his work which would be satisfied with nothing but the very best in every particular and from every aspect.

Certain it is that as apparatus improved, and tools were replaced by text-books, achievement seems to have deteriorated in many ways, of which fenestration is one. The physical potentialities of windows having been demonstrated and good types multiplied into commonplace orthodoxy, architects began to be content to regard them merely as features in a façade, rather than as lighting agents to be carefully adjusted and proportioned to the work required of them. They might be good windows or bad. They might suffer from fenestral ophthalmia or any other defect; but provided they did not squint, the architect—once a craftsman but by then more of a portrait painter—was satisfied. The utmost which he required of windows was that they should conform to the nice proportion of height to width, of wall space to voids, dictated by the ruling architectural pundits of the day.

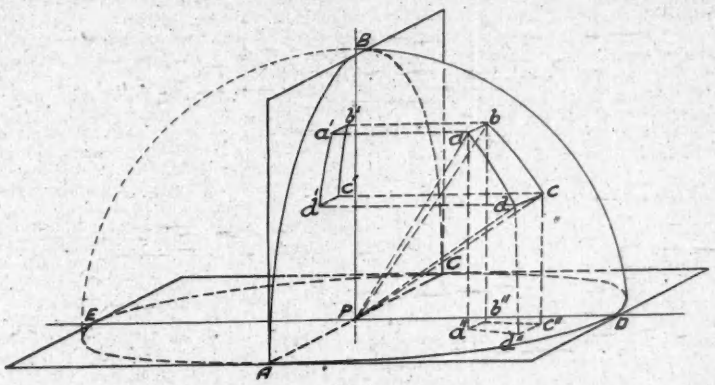


FIG. 1.

This obsession as to external appearance and disregard of real efficiency did not make for good lighting. Unfortunately both the obsession and the neglect have continued down to the present day, and fenestration has become, if not a lost art, at least a lost science.

This was forcibly impressed on the writer recently by the atrociously bad lighting of the principal living-room of a villa on a new housing estate on the outskirts of London. The very modern, wide, low window faced open fields; the weather was clear and bright, but the room was extremely gloomy and depressing. It was not a solitary instance, being in one of a large number of similar new houses, all trying desperately but monotonously to be original by escaping from the monotony of being like anything which had served previous generations. In consequence, all the windows were low and broad, with all their heads some 2 ft. or more below the ceilings, all the rooms were equally sad, and the prospect of hundreds of families being condemned to such conditions of natural lighting down a long vista of future years gave a certain attraction even to air-raids.

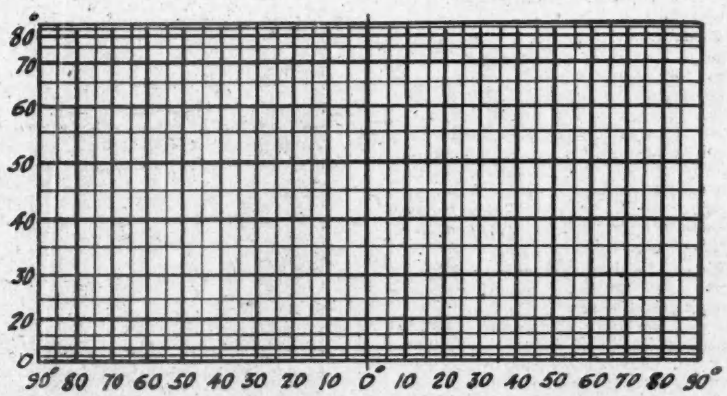
Clearly, if post-war reconstruction is to approach the high expectations for which preparations are already being made, it is necessary to rediscover sufficient of the lost art of fenestration to be able at least to say why a Queen Anne drawing-room can be light and cheerful on a wet day, whilst even sunshine only seems to accentuate the perpetual twilight of a modern "lounge."

The subject of natural illumination has not been neglected in this country. The administration of our law of legal rights of light has called for a more or less exact technique. Methods of measurement, predetermination and representation, evolved to meet that demand, have been approved and standardised internationally for use in connection with town planning.

The system of measurement which has been tested, practised and standardised expresses the natural illumination at any internal position in terms of the more or less constant ratio between the indoor and outdoor light from skies of uniform brightness, especially on those grey days when the problem of adequate natural illumination is most acute, thus avoiding the difficulty of fluctuations in intensity.

The unit of measurement is known as the "daylight factor," which can be expressed as the proportion between the illumination at any given internal position and that which it would be if walls, ceilings and all external obstructions were removed and the position left free to enjoy the light from a complete hemisphere of sky of uniform brightness above the horizon.

That part of the daylight factor which consists of direct light from unobstructed sky visible from the position under consideration is termed the sky factor. It disregards the contribution made by reflection from internal and external obstructions, and also such loss as is due to the passage of light through window glass. Fortunately, the total net effect of these items is sufficiently small to be allowed for without material error by a small constant. Daylight factors can,



SKY FACTOR CALCULATING DIAGRAM

FIG. 2.

therefore, be measured in the simpler form of sky factors, and these can be obtained by geometrical methods which, if sometimes tedious in application, are quite simple in principle.

The fundamental principle of illumination at a point on a plane from any part of a spherical surface uniformly bright, of which spherical surface the point under consideration is the centre, is that the area of a flat projection on the plane of that part of the spherical surface bears the same relation to the area of a flat projection on the plane of the whole spherical surface as the illumination from the portion bears to the illumination from the whole.

Thus, if the illumination be that measured horizontally on a vertical surface, such as a wall, the illumination at a point P Fig. 1 from a patch of visible sky abcd can be expressed as a sky factor by the relation of the area $a'b'c'd'$ on elevation to twice the area of the semicircle ABC or the circle AECD, which is the flat projection of the complete hemisphere of sky above the horizon.

If the illumination is to be measured vertically on a horizontal plane, such as a table, it can be expressed as a sky factor by the relation of the area $a''b''c''d''$ on plan to the area of the circle AECD.

When, therefore, it is desired to ascertain the sky factor at a point in an obstructed room measurements are made, generally from drawings, of the angles of elevation and bearing subtended at the point by the salient points of the windows and of what is visible through them from the point, whether sky or obstruction. These salient points are plotted on a flat projection of angular co-ordinates or lines of celestial latitude and longitude and joined up to form a picture of the window and its aspect. The area of the plotted patch or patches of sky on that picture measured and divided by the area of the circular flat projection of the complete hemisphere of sky above the horizon or the area of twice the semicircular flat projection of the quarter sphere of sky visible from a window in any vertical wall is the sky factor at the point. The scale of the projection is immaterial.

Projections on plan for table plane lighting result in a somewhat unnatural picture, the component parts of which are not so readily recognisable as those of a projection on elevation. Most practitioners prefer, therefore, to make their projections on the rectangular web Fig. 2, devised in 1923 to give the same results as a flat projection of π quarter sphere on plan and recommended in the D.S.I.R. report on the subject, Illumination Research Technical Paper No. 7 (H.M. Stationery Office, 2nd Edition, 9d.).

The most important part of the illumination of a room is, of course, the lighting on the table plane, where the greater part of all operations requiring natural light are carried out. The useful lighting of any room can, therefore, be defined by the extent of adequacy over the horizontal table plane—*i.e.*, by the area receiving light which is adequate for ordinary purposes comparable with clerical work over reasonably long periods expressed as a daylight factor value.

This can be measured without difficulty at different positions geometrically or otherwise as the sky factor provided by the window and its aspect, and the "grumble line" of inadequacy can be plotted for conveniently simple representation on π plan of the room.

Thus, if the light on the table plane be adequate up to or near the back wall, the room, as a whole, would doubtless be considered as adequately lit for ordinary purposes. If the "grumble line" runs across the middle of the room it might be considered as reasonably well lit for the centre of a town, where the effect of a certain amount of external obstruction is generally accepted as being more or less inevitable. If, however, the adequate light only penetrated to the table plane a short distance back from the window, the room would probably be unanimously condemned.

The relative efficiency of windows of different sizes and proportions can, of course, only be compared under conditions of unobstructed aspect, the possible variations in external obstruction being infinite. It will be found, however, that the shape and proportions of window most effective for open aspects are also most efficient for obstructed aspects. Results are given later in this article of an investigation into the relative efficiency for table plane or useful lighting of windows of different proportions of height to width.

(To be continued.)

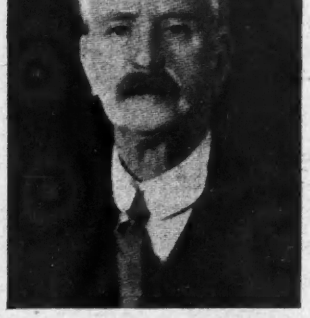
OBITUARY

John Alfred Gotch, M.A., P-P.R.I.B.A.

We regret to announce the death, on January 17, at Weekley Rise, Kettering, of Mr. John Alfred Gotch, Past-President of the R.I.B.A., at the age of 89. The funeral took place at Weekley on Tuesday.

Born in 1852, Mr. Gotch was educated at Kettering Grammar School and the University of Zurich, before commencing his architectural education at King's College, London, and the Architectural Association School. After serving his articles with the late R. W. Johnson, of Melton Mowbray, he set up in practice in 1879 at Kettering, afterwards being joined by Mr. Charles Saunders, in partnership with whom he designed many country houses in the Midlands—Corby House; Clopton Manor House; Thornby Grange; and The Gables, Peterborough, among them. He also planned St. Mary's Church, Kettering, and many schools for the Northants and Bedfordshire County Councils, besides a number of banks for the Midland Bank, Ltd., the design of whose Poultry, E.C., head office he shared with Sir Edwin Lutyens, P.R.A., and in which his nephew, Mr. Laurence M. Gotch, F.R.I.B.A., also had part.

Gotch's reputation, however, rests not less on his writings than on his architecture. He published in 1883 "The Buildings of Sir Thomas Tresham," and this was the forerunner of a number of scholarly works, of which the chief were "Architecture of the Renaissance in England" (1894), "Early Renaissance Architecture in England" (1901), "The Growth of the English House" (1909), "The English Home from Charles I to George IV" (1918), "The Original Drawings for the Palace at Whitehall, attributed to Inigo Jones" (1912), "Old English Houses" (1925), and "Old Houses of Northamptonshire."



THE LATE J. A. GOTCH, P-P.R.I.B.A.

Honours paid him by his professional brethren were many. He was President of the A.A. 1886-87, President of the Northants Association of Architects 1911-12, a member of the Royal Fine Art Commission and a Hon. Corresponding Member of the American Institute of Architects. But perhaps the crowning distinction was his election as President of the R.I.B.A. in 1923, the first such election from architectural ranks outside London. He was F.S.A. and Hon. M.A. of the University of Oxford, and for many years had been Chairman of the Northants Quarter Sessions.

Mr. Gotch carried out a good deal of research in his favourite period of architecture—the early English Renaissance. In connection with the design for the Palace of Whitehall, he showed conclusively that Inigo Jones's Banqueting Hall, commonly thought to be a portion of the proposed palace, was not so, but was an independent building. He showed also that the great design for the palace was the work not of Jones, but of John Webb, his pupil and executor and connection by marriage.

He also discovered documents which went to prove that "Coleshill," Berkshire, which was everywhere accepted as a work of Inigo Jones, was actually designed by Sir Roger Pratt.

J. R. Truelove, A.R.I.B.A.

We regret to announce that Mr. John Reginald Truelove, A.R.I.B.A., chief supervising civil engineer to the Northern Command, has died suddenly at Richmond, Yorks. Aged 55, he was the third son of the late Alderman and Mrs. Arthur Truelove, of Sheffield. He practised in London before the last war, after being articled with Messrs. Hall & Fenton, of Sheffield.

After serving throughout the war with the London Regiment, being twice wounded, he worked with the War Graves Commission in France, later resuming his London practice. His chief works included Stoke Newington Municipal Buildings (won in competition), Territorial A.A. Headquarters Buildings, and a Memorial to the Missing in France.

John Fairweather, F.R.I.B.A.

The death has occurred, by an accident, of Mr. John Fairweather, F.R.I.B.A., of Glasgow. Mr. Fairweather, who was over 70 years of age, qualified in 1894, and he was made F.R.I.B.A in 1916. He designed Gateside School, Cambuslang; Eastpark Homes in Glasgow and Largs; and the Mansion House, Enterkin, Ayrshire. In later years he specialised in the designing of cinemas, and went to the United States in 1923 to study construction.

H. W. Finch, F.R.I.B.A.

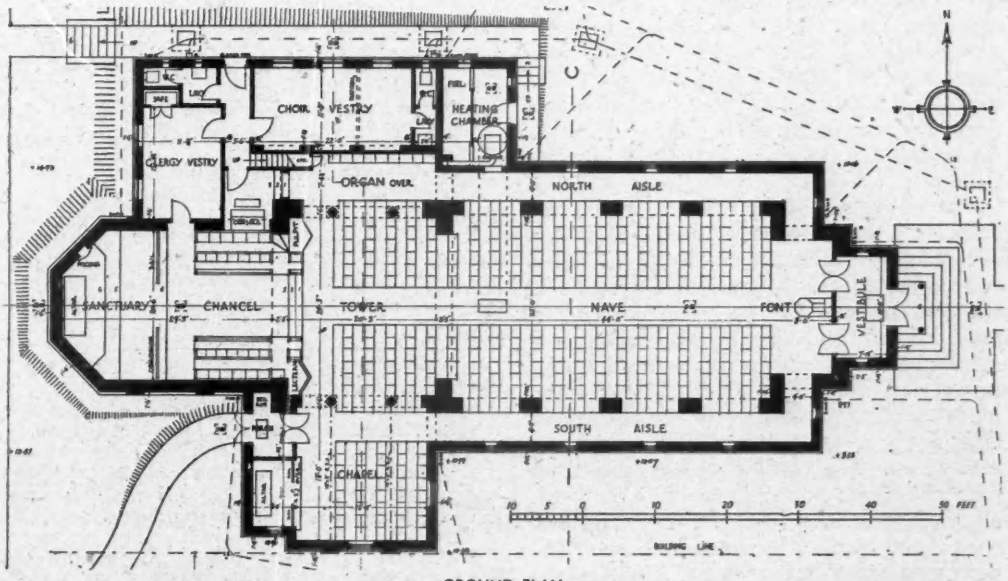
We regret to record the death of Mr. Henry William Finch, F.R.I.B.A. (retired), of Burgins, Burges Hill, Sussex, and Old Square, Lincoln's Inn. He was 73.

In our obituary notice of Mr. D. Barclay Niven last week, reference was made to his partnership with "the late H. H. Wigglesworth." We apologise for an unfortunate slip. Mr. Wigglesworth is happily alive and well.

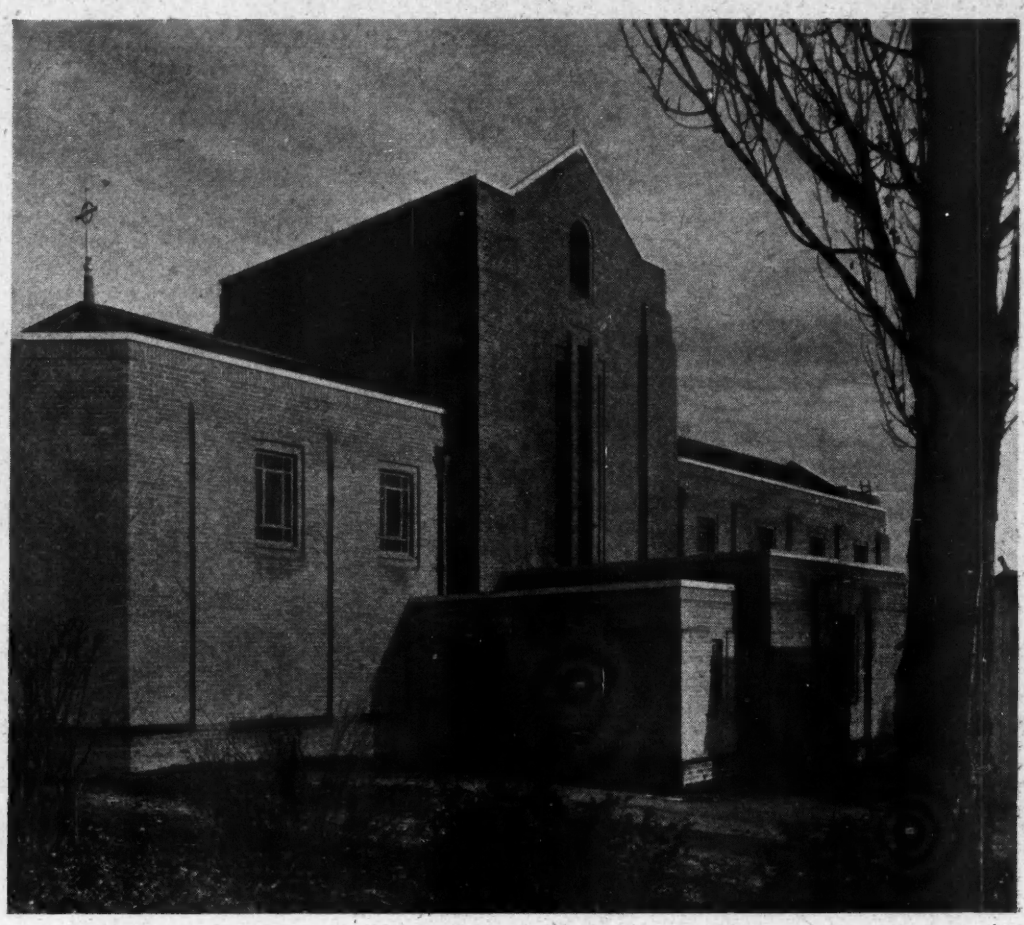
VIEW FROM SOUTH-EAST.

ST. PETER'S CHURCH, GRANGE PARK, N.

MR. CYRIL A. FAREY, F.R.I.B.A., ARCHITECT.



GROUND PLAN.



VIEW FROM SOUTH-WEST.

ST. PETER'S CHURCH, GRANGE PARK, N.

THE PLANS OF THIS CHURCH WERE prepared and approved in 1939 but the scheme was put on one side after the outbreak of war. In the beginning of 1940, the London Diocese decided to erect six churches, and St. Peter's, Grange Park, was included in these. The building was commenced in March and the foundation stone laid on June 1, 1940. The whole work was completed by November 1, 1941, when the church was consecrated by the Bishop of London.

The external walls are faced with buff-coloured Colwood bricks and the roofs are covered with dark brown pantiles. The seating capacity is 350, and the amount of the contract was £8,746. The problem of finishing and furnishing during war time was mainly solved by the tragic destruction of a number of churches in the London Diocese, parts of which have been transferred to Grange Park, some temporarily, some permanently. The roofing timber came from four churches: St. Stephen's, Bow; St. Mary's, Islington; St. Paul's, Edgware-road; and St. Paul's, Bethnal Green. The pews and pulpit are from St. Etheldreda's, Fulham Palace-road; the choir stalls from St. Stephen's, Poplar; and the font and altar rails from St. Catherine's, Hammersmith, to which they were taken in 1923 when St. Catherine Coleman's was demolished. The bell, dated 1785, is from St. John's, Drury-lane. The lectern came from the private chapel of Prebendary Austin Thompson, who lost his life in an air raid.

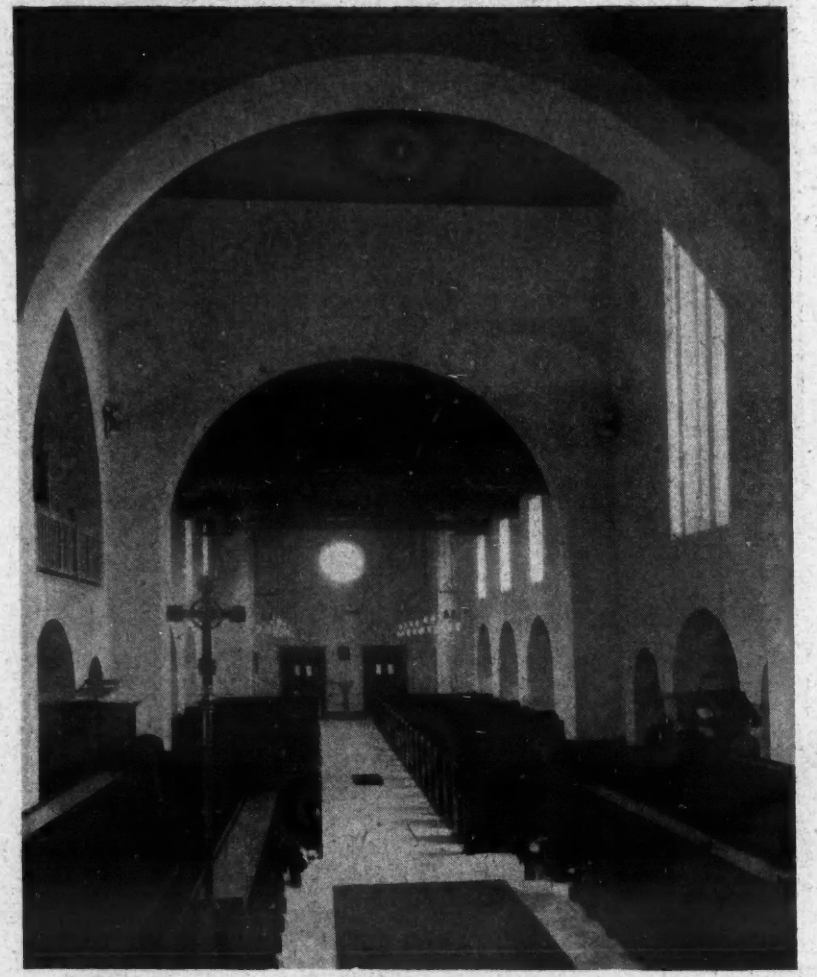
The following is a list of sub-contractors and suppliers engaged on the work:—

Acoustic treatment and insulation, Gyproc Products, Ltd.; carved lettering, Mr. Newbery Trent; facing bricks, Brick Makers & Factors, Ltd.; hollow block flat roofs, Kleine Floors; asphalt, Field & Palmer, Ltd.; pantile roofing, Stirling & Johnson; wood block flooring, Horsley Smith & Co.; windows, Crittall Manufacturing Co., Ltd.; pipeless central heating, McClary; electrical installation, G. W. Franklin & Son; electrical fittings and gilded cross, Tudor Art Metal Co., Ltd.; lightning conductors, J. W. Gray & Son, Ltd.; wall safes, Chubb; ironmongery, Yannedis & Co., Ltd.; sanitary fittings, Tylors, Ltd.; organ, John Compton Organ Co., Ltd.; and folding partition, Educational Supply Association, Ltd.

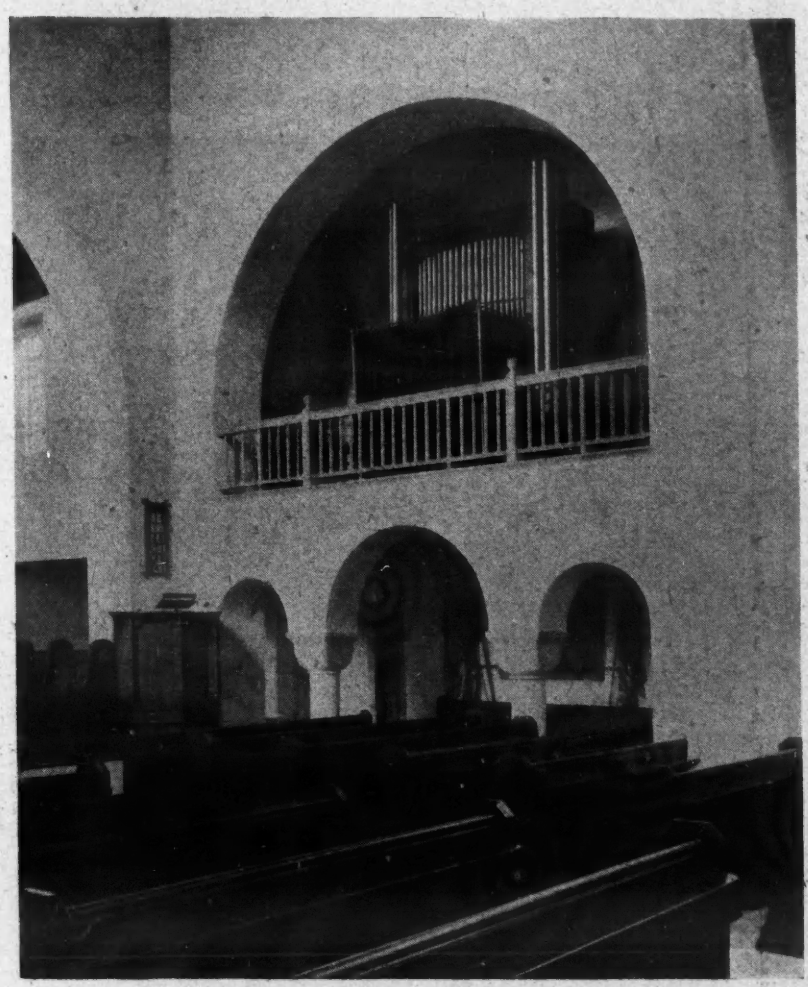
The general contractors were Messrs. George Bollom & Sons, Ltd.; the quantity surveyor was Mr. William C. Inman, F.S.I., M.I.Struct.E.; and the architect, Mr. Cyril A. Farey, F.R.I.B.A.

VIEW OF CHANCEL. *Below :* NAVE, LOOKING TOWARDS CHANCEL.

ST. PETER'S CHURCH, GRANGE PARK, N. MR. CYRIL A. FAREY, F.R.I.B.A., ARCHITECT.



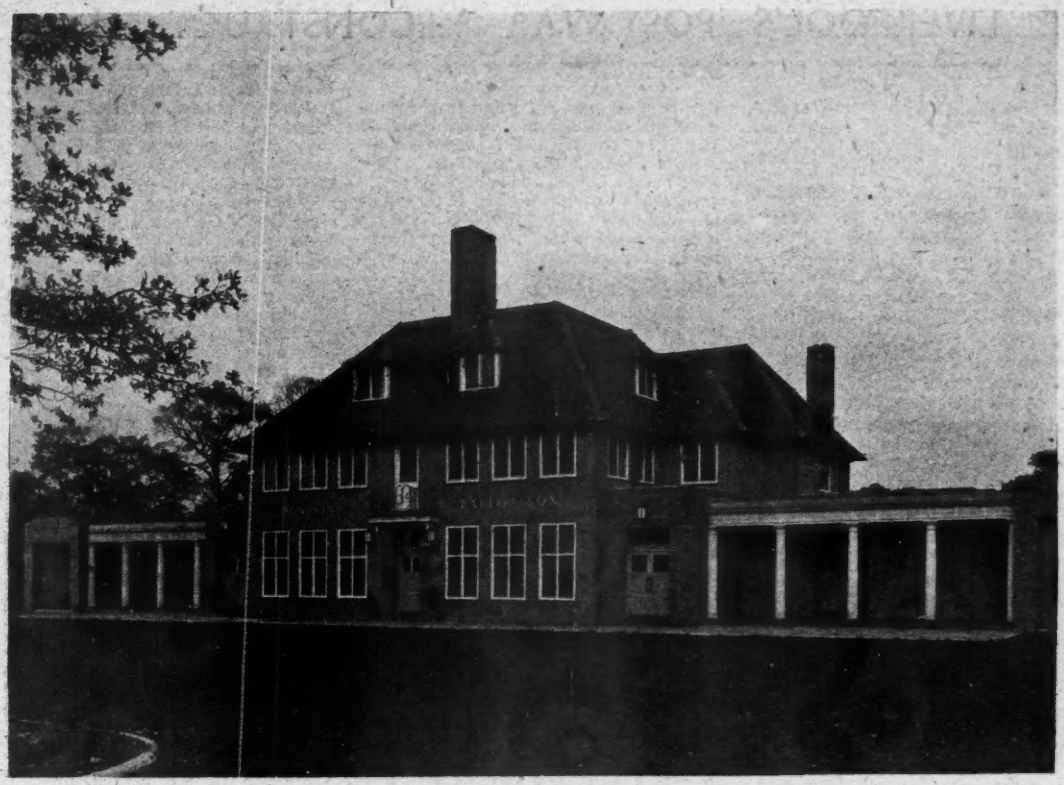
VIEW OF NAVE FROM SANCTUARY.



VIEW IN UNDER TOWER, LOOKING TO ORGAN LOFT

ST. PETER'S CHURCH, GRANGE PARK, N.

MR. CYRIL A. FAREY, F.R.I.B.A., ARCHITECT.

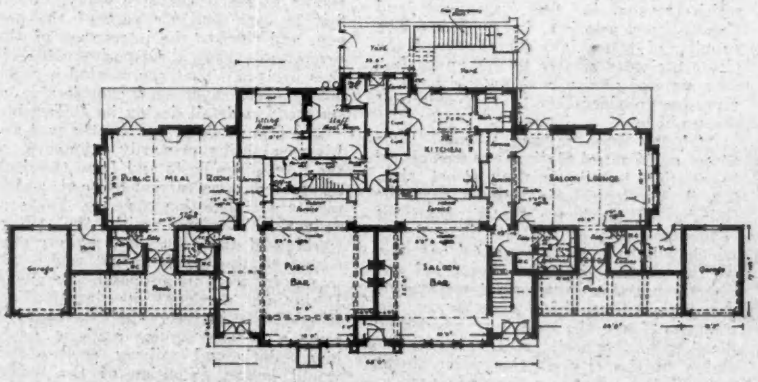


VIEW FROM ROADWAY.

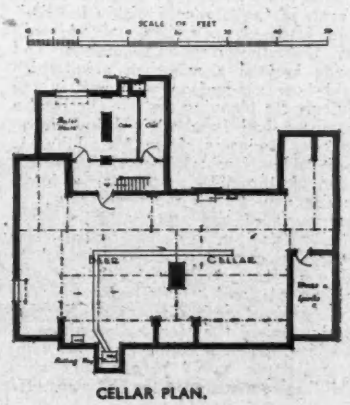
THE "BALLOT BOX" INN, SUDBURY, MIDDLESEX

MR. ROBERT G. MUIR, F.R.I.B.A., ARCHITECT.

In order to facilitate the use of Horsenden Hill as a public open space, the owners of the "Ballot Box" (Messrs. Benskins Watford Brewery, Ltd.) agreed with the Middlesex County Council to remove the position of this house from the top of the hill to a position at the bottom, near Sudbury, and consent to this removal was given by the Justices. The house contains, on ground floor, a public bar, games room, saloon bar and saloon lounge; on the first floor there is a good club-room available for local functions. The house is constructed in multi-coloured facings with tiled roof, the builders being Messrs. Henry Brown, of Watford, Hertfordshire.



GROUND-FLOOR PLAN.



CELLAR PLAN.

LIVERPOOL'S POST-WAR RECONSTRUCTION

ADDRESS TO MERSEYSIDE CIVIC SOCIETY

In a paper on "The Post-War Reconstruction of Liverpool," read to the Merseyside Civic Society recently, Alderman A. Ernest Shennan, J.P., M.A., F.R.I.B.A., said that there had been a great deal of interest displayed of late in the subject of town planning and reconstruction, and one has heard and read a lot about magnificent vistas, processional ways, and beautiful buildings. The other more important components of planning, without due attention to which we proceeded at our peril, were clearly large-scale planning of a positive kind, accompanied by broad-visioned, long-term, comprehensive planned activity. A city must be created which would make life happier, fuller and richer for all its citizens.

Avoiding Past Mistakes.

To avoid past mistakes, which had been largely due to the absence, until recently, of planning powers, it must be clearly in our minds what we wished to do when the war was over, and it was therefore essential to consider now the basis of our future plans with regard to the environment in which we lived. Of all the public utterances on the present town-planning problems, perhaps among the best informed had been the discourses recently held by the Royal Academy of Arts, in the last of which Sir Charles Bressey stressed the principle that the greater the city the more imperative the need to ensure that the citizen should participate in the multifarious activities of city life—religious, social, political, commercial, industrial, recreational and educational, without irksome delay and inconvenience in his travels. All the benefits that ought to be conferred by the concentration of the vast resources within a city were nullified if ready access to them was denied. "In plain terms," declared the speaker, "under the artificial conditions of life that prevail to-day, mobility lies at the root of town planning, and roads are the structural elements of the town plan."

Parliament had laid down certain procedure for the regulation of town planning, and it was only in accordance with that procedure that redevelopment could take place. In Liverpool, the statutory planning authority was the City Council, and since 1909 the Health Committee had had the responsibility of promoting town-planning schemes. There were schemes in an advanced stage of preparation for all areas of the city, and within the limitations imposed upon them no one could deny that the Health Committee had already created a suburban area which would bear comparison with any in the country. On planning matters the Health Committee had been advised by successive city engineers, from Mr. John A. Brodie to Mr. Herbert Hamer, the present holder of the office, who was a town-planning expert with experience gained in many parts of the country. The town-planning staff under his control was thoroughly capable and experienced to undertake the work of planning new development and redevelopment. The City Architect and Director of Housing already advised the Health Committee on elevations to new buildings, and his valuable assistance would be available when rebuilding commenced after the war. He (the speaker) was not going to propound some grandiose scheme which could be carried out only by first laying waste the present city and starting afresh. They were out to build a "better Liverpool," not a "new Liverpool," and if they were to plan wisely they must first consider the civic heritage which succeeding generations of townsmen had handed down.

Defects in Present Layout.

Social legislation, unfortunately, did not keep pace with the rapid growth of the town, and the nineteenth century was marked by the existence of the most miserable living conditions for the less fortunate townspeople. If we recalled Liverpool's tardiness in this, in fairness her pioneering work must be recalled in the promotion of public health in the period which followed. In 1847, she was the first town in England to appoint a Medical Officer of Health. Liverpool's heritage was a considerable one when the present war came to check the peaceful course of the development of the city. Now they bore the scars of warfare, but could take comfort in the thought that an opportunity was afforded to take stock, to weigh the ills to which the city was subject, and to define a planning policy to pursue when the time for reconstruction arrived.

"Uppermost in our minds, of course," continued the speaker, "is the damaged central area, and before considering any new plan let us first examine the defects in the present layout. The theoretical shape of coastal towns is normally a semicircle, and Liverpool approximates closely to this shape in practice. It possesses an exceptional feature, however, in its world-famed line of docks, which stretch for seven miles along the diameter of this semicircle, and when we consider that a very great proportion of the import and export trade of the whole country passes through these docks, and that 75 per cent. of it is carried by road transport, it is not surprising that we are faced with a traffic problem of great magnitude. The inadequacy of our present Dock-road to cope with the traffic has become so acute that the reorganisation of traffic facilities in the port area has become a matter of great urgency.

"The semicircular form of the city, coupled with the lack of provision for gyratory traffic, has led to the usual characteristic encountered in coastal towns, where the centre of the semicircle, in this case the pier-head, becomes the terminus of the public transport system, and we are all sadly aware of the congestion which results in the Dale-street and Church-street arterials, for example. The running of trams into the centre of the city contributes greatly to this unsatisfactory state of affairs, and we will have to give due consideration to this aspect of the problem.

"Of the three railway termini, Lime Street and Central Stations are well placed in relation to the existing street plan, but it has long been realised that the isolation of Exchange Station from the shopping centre of the city is a defect which will have to be remedied one day. At the present time the absence of any direct connection between this station and the main thoroughfare results in the shoppers from the populous residential districts to the north of Liverpool, who arrive in the city at this point, being compelled to traverse a maze of unattractive streets before reaching their objective. Many solutions have been proposed from time to time, and I think the opportunity has now arrived for us to put forward the outlines of a bold scheme of civic design to solve this problem once and for all.

"We possess a fine group of civic buildings in St. George's Hall and the buildings which line the northern side of William Brown-street. Probably no other provincial city in the country possesses a finer group of such buildings, but we should consider them as forming only the nucleus of a civic centre. The siting of the tunnel entrance has finally confirmed the correct function of this area, and one of our aims must be to provide in the plan for its further development to form a civic centre worthy of Liverpool's greatness.

"This in itself will be a big undertaking, but æsthetic satisfaction should not be confined to the civic centre, however attractive this may be made, and in our reconstruction of the city we must give very special consideration to the creation of architectural vistas in other parts of the plan. When we think of classic examples like Haussmann's plan of Paris we cannot but feel that in Liverpool vistral planning has received very little attention in the past, but we now have great opportunities, and we are assured of two unrivalled terminal features in the Anglican and Metropolitan Cathedrals.

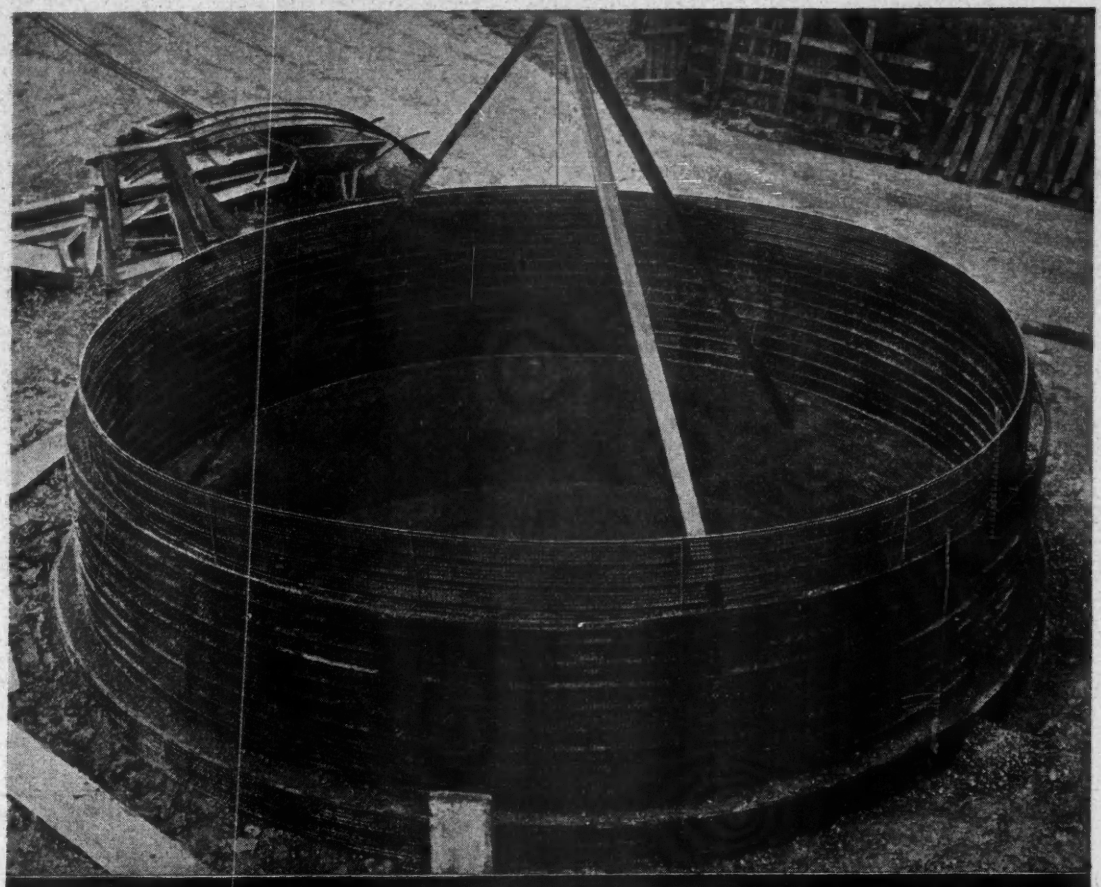
"Any mention of major defects in the city plan would be incomplete without a reference to the present unsatisfactory treatment of the pier-head, where the majestic note struck by the three large buildings which flank the river front is considerably reduced for the want of an adequate setting."

The Scope of the Problem.

Having briefly reviewed some of the city's principal deficiencies, we arrived at the problem arising from their existence. We had to formulate a planning policy. It was not a problem which could be put aside until peace returned. The Central Government was in full accord with the city in this opinion and had made a very practical contribution in the enactment of Section 7 of the War Damage Act. The reconstruction of Liverpool would owe a lot to that section and to the new planning legislation which would most certainly come in the near future.

The task of solving the problem fell upon the Health Committee and the City Council, whose town-planning officer was the City Engineer and Surveyor. In giving an outline of his proposals he was (said the speaker) putting forward the results of much intensive study, directed first to each separate part of the problem, and then to the interaction of their several solutions, a composite plan being thus evolved. That represented a general policy only, capable of considerable adjustment in detail during its fulfilment.

The first proposal was for the port area, Liverpool being primarily a seaport. Of the flow of traffic to and from the docks, 75 per cent. was carried by road, and the resultant congestion on the Dock-road seriously interfered with the efficient working of the port. The main problem concerned the north docks, where there was a far-reaching proposal whereby the Dock-road, north of its junction with King Edward-street, would virtually become a private service road on a combined dock and railway estate, which would be an extension of the existing



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	7′ 9″	16′ 3″
20,000 ,,	4′ 2″	31′ 3″
	7′ 9″	23′ 0″
30,000 ,,	7′ 9″	28′ 0″
50,000 ,,	7′ 9″	36′ 6″
100,000 ,,	7′ 9″	51′ 6″

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dock estate eastwards to Derby-road and Great Howard-street. These two roads, which already carried an exceptionally heavy load of traffic, would be converted into a wide artery capable of carrying all the north- and south-bound through traffic along the line of the north docks, thereby relieving the Dock-road and making it capable of providing adequate inter-dock communication, which was its natural function. The traffic problem of the port area was accentuated by the presence of the overhead railway. This, as evidenced by the steady decline in traffic, appeared to have served its useful purpose and should be taken down and replaced by a more mobile system of passenger transport.

A major item in the new plan was the scheme for an inner ring road, if carried to its logical conclusion. The most satisfactory way of providing such a road in the case of Liverpool appeared to be to adopt a long-term policy of bold improvement of existing streets. A route had been proposed which connected all three railway termini and served the shopping centres of Lord-street and Church-street, in addition to diverting through traffic from the Civic Centre, while providing ready access to it. The site chosen for the road would give Exchange Station an added importance and assisted considerably in formulating the next proposal, which was the provision of a direct connection between the station and the Lord-street-Church-street shopping centre. The replanning and co-ordination of the two other stations—Lime Street and Central—brought them both on to the Inner Ring-road and made them virtually neighbours, one on each side of a great traffic circus at the junction of Lime-street and Elliott-street, where one of the most important focal points in the city was planned. There was an opportunity there for a great piece of civic design, and the opportunity was heightened by the effects of enemy action. The architecture of railway stations was one of the most neglected forms of art in the country, and Liverpool would indeed be fortunate in its railway facilities if it eventually possessed three termini of real architectural merit, disposed conveniently around its Inner Ring-road.

The Civic Centre.

The focal point of the new plan was the Civic Centre. There was a heritage in the stately buildings which overlooked St. John's Garden on the north and east sides, but in contrast, the south side was occupied by small, out-of-date property. The proposals provided for the reservation of the St. John's-lane frontage for civic buildings, to balance the Museum and Art Gallery and to complete the framing of the stately beauty of St. George's Hall, while on the western side, buildings connected with the administration of the city should be sited. The heart of the Civic Centre was the tunnel entrance, which was appropriately accentuated, and the complete remodelling of St. John's Garden. The street plan was designed to give easy access to the Civic Centre while discouraging through traffic, incidentally giving a very good example of the interaction of the various proposals which were incorporated in the scheme.

The simultaneous erection of two cathedrals in one city was unparalleled in the history of this country, and the position of both sites on the higher ground which overlooked the centre of the town gave opportunities for vistral planning on a grand scale. "We have all watched Scott's stately edifice in modern Gothic rise slowly from its foundation on St. James's Mount until now its massive tower can be seen for miles around, seeming to dominate the city. Here is a building built to last a thousand years, something above the sordid commercialism of the age, where good building and craftsmanship have been allowed full play. It is truly a civic asset, but its possession imposes upon us an obligation to provide an adequate setting and approach." The scheme provided, among other things, for the eventual demolition of a large area of property between St. James-road and Great George-street, and its laying out to provide an open space in front of the cathedral, revealing its entire length. "We have yet to see the vast cathedral which Sir Edwin Lutyens has commenced at the summit of Brownlow Hill, but we are all familiar with the design and can form an idea of its ultimate appearance from the work which has so far been carried out. . . . The site of our second cathedral affords us an equally good opportunity for a fine piece of vistral planning, and the city engineer has included in his scheme an approach road of spacious dimensions, commencing at the great traffic circus on the Inner Ring-road, between Lime Street and Central Stations, and centred on the cathedral as its terminal feature. . . . Opportunities of this kind are, of course, very exceptional, and in the enthusiasm which they can enkindle we must not lose sight of the necessity for attaining beauty and dignity in other important parts of the city. The pier-head is a case in point."

The River Approach.

It only remained to discuss the river approach, which made the pier-head the "Gateway of Liverpool." Proposals had been put forward in the past which would extend that area northwards beyond Princes Dock, but he considered that the proposals now recommended by the city engineer and surveyor provided a better solution. They involved taking full advantage of the space between Princes Dock to the north and Canning Dock to the south to give a setting to the river front worthy of the approach to Liverpool by sea, which was the source of her prosperity. The majestic note struck by the three large pier-head buildings was amplified by the addition of another building, which might appropriately accommodate a new custom house, between the Liver and the Princes Dock, with suitable flanking buildings to the north and south to give a composite design. "The scheme provides for the remodelling of the area enclosed by these as a formal open space, and the exclusion of trams west of the Inner Ring-road, thus creating a rest garden from which the ever-changing river scene, so beloved of Liverpool people, could be enjoyed."

The lecturer then briefly described the plans laid for the outer suburbs, and in conclusion said that in embarking upon the redevelopment of Liverpool he had no illusions about the magnitude of the task which lay before them, but he looked with confidence to the future. The task would be commenced by the present generation, but it would be left to succeeding ones to bring it to fruition, perhaps—who knew?—a century from now, and when they thought upon the magnitude of the undertaking the fact must be borne in mind of its execution being necessarily spread over a long period of years. The financial cost would indeed be great, though shared by the Central Government, but the benefits derived would be commensurate, even if the greatest would be incapable of expression in terms of finance, though that was not to say that a financial return would not be obtained from the execution of many of the proposals.

"The proposals which I have put before you to-day constitute a long-term policy for the redevelopment of the city, and I have suggested a hundred years as a possible time for its fulfilment. On the other hand, we must also have a short-term policy to enable us to achieve some of our planning aims in the near future, and the reconstruction consequent upon war damage should form a part of this. An excellent example of what I mean is the case of Lord-street, where the reconstruction of the south side, which is bound to be undertaken very soon after the war, makes possible the inclusion of this section of the Inner Ring-road in the short-term policy.

"Our short-term policy will vary from time to time in accordance with the opportunities afforded us for carrying out different parts of the main plan at any particular time. It will be greatly influenced by the voluntary carrying out of rebuilding operations by private enterprise, for once a planning scheme has been approved it will be necessary to require all new buildings to conform to the new lines set down. The successive short-term policies will each be in accordance with the fuller view of the long-term policy, which is the ultimate goal, and the integration of the smaller parts will eventually build up the whole to form a better Liverpool."

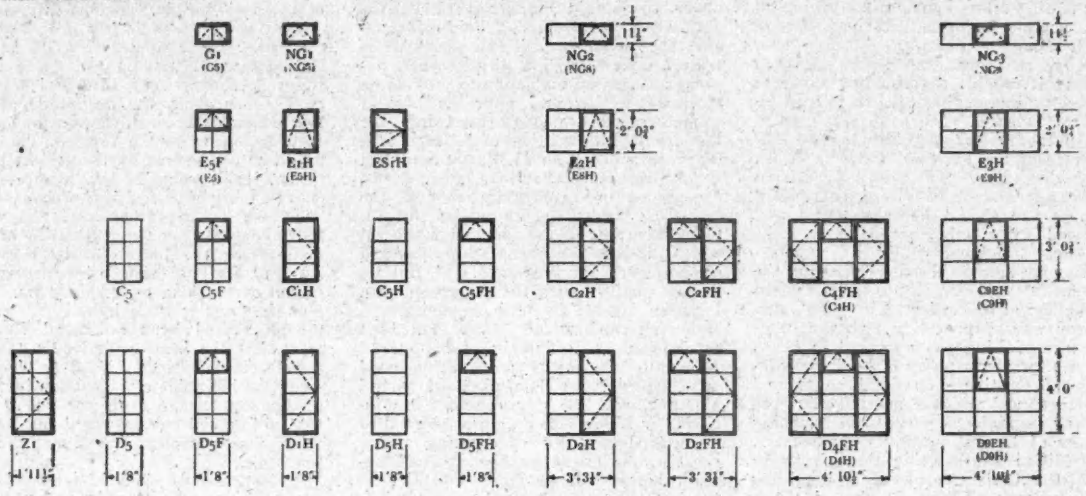
IN PARLIAMENT.

In the House of Commons recently, Mr. Thorne asked the Minister of Health if he could state the total capital expenditure on subsidised houses built by local authorities and by private enterprise: the number of houses built by local authorities and by private enterprise; and the loans sanctioned for 1939 and 1940?

Mr. E. Brown replied: The total expenditure on subsidised housing in England and Wales since 1919 up to March 31, 1941, was approximately £836,000,000, of which it was estimated that £578,000,000 was in respect of building by local authorities and £258,000,000 by private enterprise. The number of houses built in the same period was 1,178,011 by local authorities and 3,055,691 by private enterprise, of which 433,980 were built with State assistance. During the years ended March 31, 1940, and March 31, 1941, loans for the provision of new housing accommodation by local authorities were sanctioned to the extent of £11,661,982 and £2,101,548 respectively.

STANDARD METAL WINDOWS

THIS WINDOW LAYOUT IS DRAWN AS WINDOWS WOULD BE VIEWED FROM OUTSIDE OF BUILDING



WHERE IT IS DESIRED TO OMIT TOP HUNG VENTS FROM STANDARD TYPE WINDOWS AS SHOWN, THE ALTERNATIVE NOTATIONS ARE GIVEN IN BRACKETS

METAL WINDOWS AND DOORS

NEW BRITISH STANDARD.

THE issue of this British Standard (B.S. No. 990-1941) represents a very interesting addition to the list of standardised building units. Standards for wooden windows were prepared and issued in 1935 in B.S. 644, but prior to the war no action had been taken to secure co-ordination of the types and sizes of metal windows made by different manufacturers. This step has now been achieved. The standard is in two parts. The first includes the specification clauses relating to requirements such as quality of material, workmanship, fittings, finish, etc. The second part gives working drawings of the different types of window (these are reproduced on this page), full-size drawings of the steel sections and details of various methods of fixing. Information about the glass sizes, daylight areas and weight of steel for licence purposes is also included.

The standards have been fixed in close association with the British Metal Window Manufacturers' Association, Ltd. The reduction in the multiplicity of types and sizes of windows and doors for all war-time purposes—both Government and general—including factory, hutting, hostel and storage, should assist in concentrating war-time demands with the consequent advantage of quicker delivery.

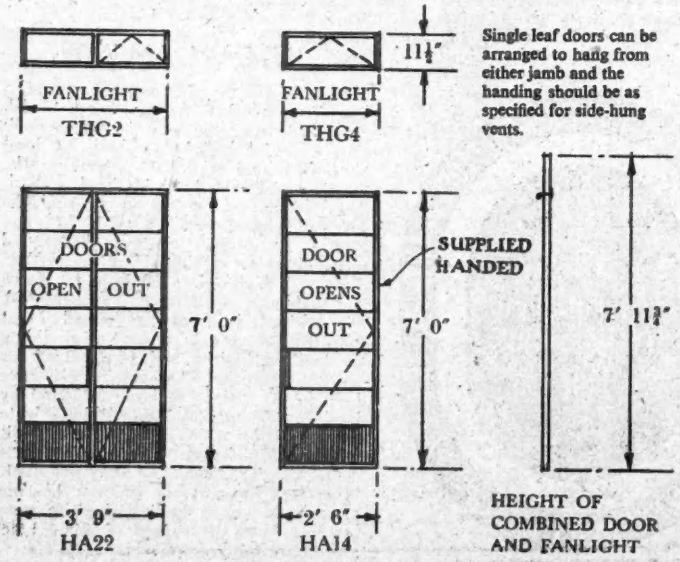
The Standard is issued under the authority of the Ministry of Works and Buildings and will, therefore, be adopted by all Government Departments. Copies of this new British Standard may be obtained from the British Standards Institution, 28, Victoria-street, Westminster, S.W.1, price 2s. 3d. post free.

Mr. Alfred Cannon.

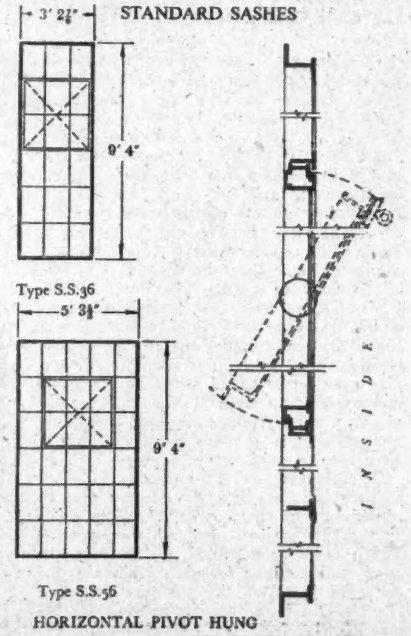
Mr. Alfred Cannon, F.C.I.S., has relinquished, as from December 31 last, his appointment as Director of the Southern Counties Federation of Building Trades Employers—a post he has held for the past 15 years. Mr. Cannon remains as Liaison Director and Secretary of the Southern Builders' Emergency Organisation, at 45, St. Giles, Oxford.

STANDARD METAL DOORS

DETAILS OF DOORS AND FANLIGHTS



STANDARD SASHES



TIMBER ECONOMY

MINISTRY OF WORKS RECOMMENDATIONS

(Concluded.)

E.

Where the use of timber is essential, home-grown, even though it is more difficult to work than imported, should always be considered. It is in reasonably good supply, and there are cases where, by unconventional methods of construction, it may be employed successfully. For *shuttering* which will only be used once or twice, home-grown hardwood should be used. In such rare cases where *roof boarding* is considered necessary under slates, home-grown hardwood should be used. *Purlins* also can be constructed satisfactorily from this material.

F.

Poles and coppice wood generally are in good supply, and their use should be encouraged instead of square timber. Softwood poles of 2-3 in. diameter and hardwood poles of 5-7 in. diameter are easily obtainable, although they require a licence. At present, experiments under the auspices of the Ministry of Works are being carried out for utilising this material for hutting. Poles should be used instead of square timber for all *trench strutting*.

G.

A table giving details of *safe dimensions* for given loads on floor joists, boards and rafters is obtainable from the Forest Products Research Laboratory, Princes Risborough, Aylesbury, Bucks, and is a useful guide where timber floors or roofs are absolutely essential. A table, prepared by the Forest Products Research Laboratory, giving suitable sizes for purlins, is given in Fig. 6.

H.

New timber should not be used where second-hand is available. Multiple usage is necessary. Number of times will vary from 200 in case of simple moulds to much smaller use for complicated sections. Considerable saving can be made, though with care. *Timber*, especially *home-grown*, has a marked tendency to warp when used for shuttering. To obviate this, it is recommended that timber for shuttering be kept wet as far as possible. This advice is given: "For shuttering which will only be used once or twice, home-grown hardwood should be used." *For repetition work*, steel shuttering should be used generally. Most of the large contractors have stocks, but there are a number of firms who supply steel shuttering and propping on hire or for sale.

Brickwork can be used in many instances to form permanent shuttering and an integral part of concrete walls and foundations. Typical sections are illustrated in Fig. 7.

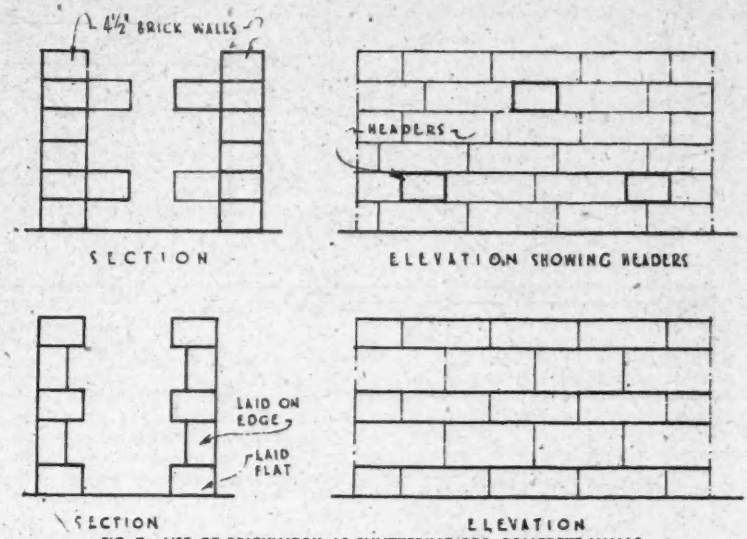


FIG. 7.—USE OF BRICKWORK AS SHUTTERING FOR CONCRETE WALLS

The use of *Norfolk Reed for shuttering* has lately been investigated by this Department. On the job inspected the reed formed permanent shuttering for the roof slab of an air-raid trench shelter, consisting of four compartments each 30 ft. long by 7 ft. span. The reed was used in similar manner to "Hyrib" placed on bearers at about 18-in. centres, and then coated approximately 1 in. thick with one-in-four mortar. Reinforcement was then placed, giving the usual cover, and the r.c. slab was constructed. After the slab was cast the ceiling was plastered and presented a good, clean and level job. The material proved very good for this purpose and saved close-boarded shuttering. After being coated with 1-in. mortar, it was sufficiently stiff for a man to walk on. The reed fabric used consisted of reeds of about ⅜ in. diameter. These reeds were held together with wire lacing at intervals of about 10 in. They were delivered in rolls about 4 ft. wide and in lengths to suit handling and conveyance. The thickness was approximately ½ in.

Well-pointed method in excavation.—When excavations have to be made in waterlogged sand or gravel, it is possible to make very considerable economies in timbering, time and labour by the use of the well-point method. In this method, well-points—that is to say, tubes which are perforated over the lower end of their length—are put down at intervals round the area to be excavated, and their top ends are connected into a ring main which is in turn connected to the suction side of a pump or pumps. The pumping will lower the ground-water level to a level beneath the bottom of the excavation, and the result is that not only is no other pumping required as the whole excavation remains dry, but that the damp sand above the lower ground-water level has a certain amount of cohesion and will therefore require very little support; it will, in fact, stand vertically without support to quite a reasonable height; further, there will be no "boiling" in the bottom of the excavation.

K.

Sapwood.—A quite mistaken idea still prevails that blue-stained sapwood is a defect in timber for all purposes, and that blue-stained timber should never be used. But all sapwood has a low resistance to decay and should not be used without preservative treatment in positions where there is a risk of moisture reaching it. If, however, the timber is first seasoned below 20 per cent. moisture content and is kept in this dry condition, which it certainly would be in joinery in a building where the moisture content varies normally from 11 per cent. to 14 per cent., then the sapwood, whether bright or blue-stained, is immune from attack by fungi. In those instances in which sapwood is required for external joinery, it should be treated with a wood preservative. Blue-stained sapwood is not deficient in strength except in positions where it is exposed to sudden loads or shocks; and in continuously dry structures, especially as it forms only a part of the cross-section of a joist or other member, blue-stained sapwood can be used with absolute safety.

M.

Under this heading is recommended saving on conversion by utilising stock timber dimensions. It is pointed out that with solid timber there are at least seven main sources of waste on conversion. With regard to the grading of timber, attention is drawn to the new B.S.I. No. 940—"Grading Rules for Structural Timber."

N.

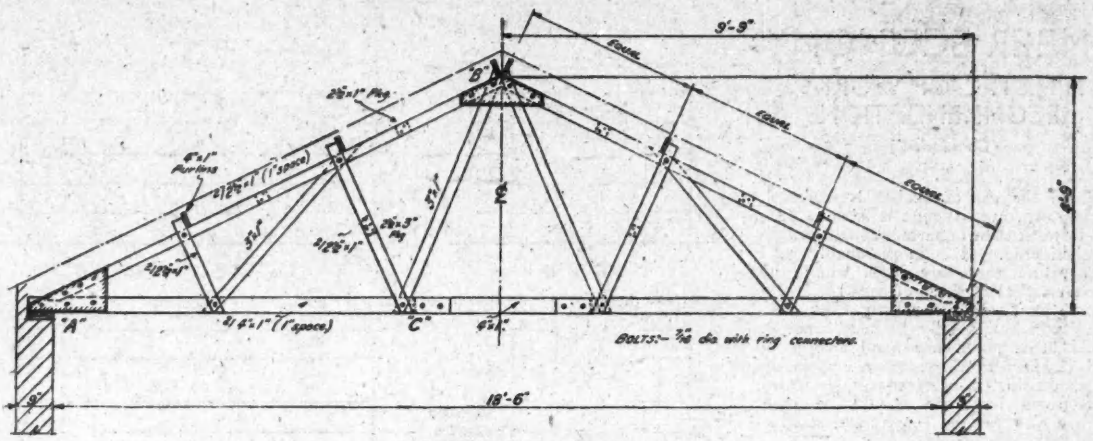
The Ministry of Works and Buildings (Directorate of Constructional Design) have produced a series of 11 sheets showing economical forms of roof construction. The whole series of drawings can be obtained from the Ministry. They include designs for: Welded Steel Trusses; Pressed Steel Trusses; Shallow Pitch Reinforced Concrete; Hollow Tile Arches; and Flat Reinforced Concrete.

SPACING BETWEEN PURLINS.

Span of Purlins.	2 ft. 0 in.	2 ft. 6 in.	3 ft. 0 in.	3 ft. 6 in.			4 ft. 0 in.			4 ft. 6 in.		
8 ft.	2×3	2×4	2×4	2×4	2½×4	—	2×5	2½×4	—	2×5	2½×4	—
9 ft.	2×4	2×4	2×4	2×5	2½×4	—	2×5	2½×5	—	2×6	2½×5	—
10 ft.	2×4	2×4	2×5	2×5	2½×5	—	2×6	2½×5	3×5	2×6	2½×5	3×5
11 ft.	2×4	2×5	2×5	2×6	2½×5	3×5	2×6	2½×5	3×5	2×7	2½×6	3×5
12 ft.	2×5	2×5	2×6	2×6	2½×5	3×5	2×7	2½×6	3×5	2×7	2½×6	3×6
13 ft.	2×5	2×6	2×6	2×7	2½×6	3×5	2×7	2½×6	3×6	2×8	2½×7	3×6
14 ft.	2×5	2×6	2×7	2×7	2½×6	3×6	2×8	2½×7	3×6	2×8	2½×7	3×6
15 ft.	2×6	2×6	2×7	2×8	2½×7	3×6	2×8	2½×7	3×7	2×9	2½×8	3×7
16 ft.	2×6	2×7	2×8	2×8	2½×7	3×7	2×9	2½×8	3×7	2×9	2½×8	3×7
17 ft.	2×7	2×7	2×8	2×9	2½×8	3×7	2×9	2½×8	3×7	2×10	2½×9	3×8
18 ft.	2×7	2×8	2×8	2×9	2½×8	3×7	2×10	2½×9	3×8	2×10	2½×9	3×8

Size of Purlins for light roofs. Dead load 3½ lb./sq. ft.
(Design for 10 lb/sq. ft. dead load to allow for wind and snow load.)

FIG. 6.



ELEVATION – TIMBER TRUSS
6'-0" CENTRES.

FIG. 8.—A TIMBER TRUSS. FOR TRUSSES, BRACING AND PURLINS OF A 78-FT. HUT, 55 CU. FT. OF TIMBER IS REQUIRED

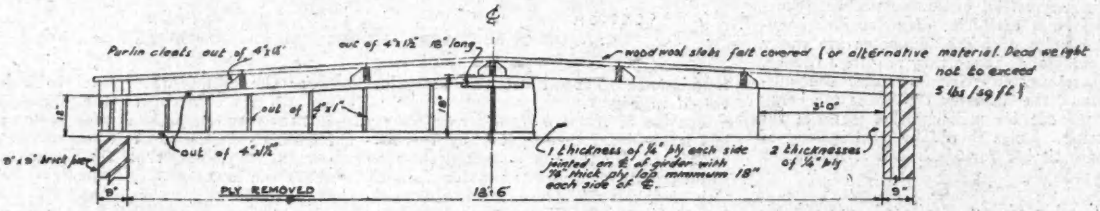

Purlin cleats out of 4"x1"
out of 4"x1½" 18" long
wood wool slabs fait covered (or alternative material. Dead weight not to exceed 5 lbs/sq ft)
out of 6"x1"
3'-0"
9"x9" brick pier
out of 4"x1"
1 thickness of ¼" ply each side jointed on ℄ of girder with ¾" thick ply lap minimum 18" each side of ℄.
2 thicknesses of ¼" ply
PLY REMOVED
18'-6"
9"

FIG. 9.—A PLYWOOD BEAM. FOR A 78-FT. HUT, 67 CU. FT. OF TIMBER IS REQUIRED

Fig. 8 shows design for a light timber truss with plywood gussets and ring connectors. In a building 78 ft. long by 18 ft. 6 in. wide with trusses at 6-ft. intervals, only 35 cubic feet of timber is required for the trusses and 20 cubic feet for the purlins. A design based on the same method of construction has been prepared for a shallower pitch and also for a 25-ft. span.

Another alternative is the lamella principle of roof construction. This uses 39 cubic feet of timber and 2.6 cwt. of steel for a building 78 ft. by 18 ft. 6 in. It uses only small sections of timber or ply and is more economical on larger spans, where it is sometimes used to form a Gothic arch.

An economical plywood box-beam is shown in Fig. 9. Spacing the beams at 6-ft. intervals, a building 78 ft. by 18 ft. 6 in. requires 56.8 cu. ft. of timber, including the beams and purlins.

O.

Very considerable economy can be effected in staircase design without any danger. A few of the ways in which savings may be made are as follows: Decorations, such as pendants, newel caps and fancy balusters should be omitted. As nearly all the wear comes on the nosed edge of the tread, treads can be cut out in tapered pairs. In factories or warehouses where heavy wear is experienced, staircases are usually made with hardwood treads 1¼ in. thick and no risers. In place of the conventional riser, here are two alternatives: Fig 10A shows a grooved-in ply riser. This is a modernisation of construction which should become standard practice. Fig. 10B illustrates a ply sheet nailed or screwed to the underside of the strings and back edges of the treads. It will serve many more purposes in war-time staircases than for factories, where it is already common practice. As Fig. 10C shows, a single plywood sheet can be used effectively for filling in between handrail and string, instead of balusters. The panel can be grooved direct into newels, handrail and string, from which capping can be omitted.

P.

This section deals with the utilisation of sawdust, wood chips, sanding flour, wood-flour and shavings. Latterly, experiments have been made for pressing wood chips and sawdust into wall boards, and some interesting and hopeful examples have been seen. The boards so far examined are heavier than timber or ply and rather lacking in tensile strength. However, they will form a useful addition to the list of "building" materials available, if they can be produced without using, as binders, materials which are in short supply and provided they prove durable under conditions of high change in humidity.

Sawdust concrete is used quite largely. For walling of prefabricated buildings it possesses the advantage of only being approximately half the weight of ordinary concrete. It also nails reasonably well and has some heat insulation value. Its disadvantages are brittleness, lack of tensile strength and undue shrinkage and expansion. Experiments in design are at present being carried out in this Department, and it is hoped so to design hutting, etc., as to allow for the shrinkage and expansion of this material, whilst taking advantage of its good properties. The porosity, and consequent waterproof value of the material from different manufacturers, varies considerably.

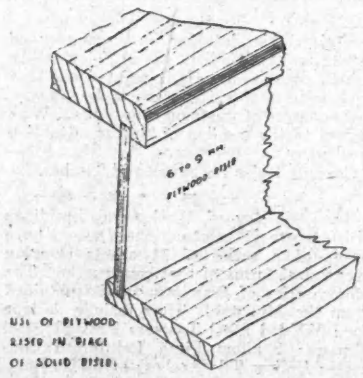


FIG. 10a.

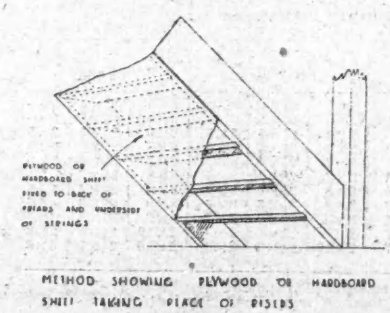

PLYWOOD OR HARDBOARD SHEET FIXED TO BACK OF TREADS AND UNDERSIDE OF STRINGS
METHOD SHOWING PLYWOOD OR HARDBOARD SHEET TAKING PLACE OF RISERS

FIG. 10b.

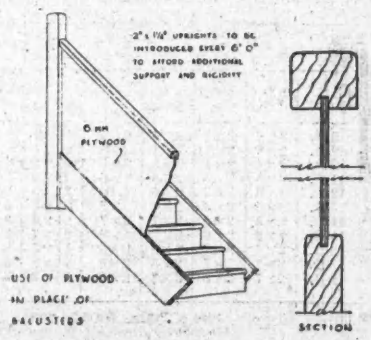

2"x1¼" UPRIGHTS TO BE INTRODUCED EVERY 6'-0" TO AFFORD ADDITIONAL SUPPORT AND RIGIDITY
6 mm PLYWOOD
USE OF PLYWOOD IN PLACE OF BALUSTERS
SECTION

FIG. 10c.

THE SMALL BUILDER

PROTEST AGAINST MISUSE IN THE WAR EFFORT.

THE Secretaries of the Federation of Greater London Master Builders send us a copy of a letter which has been sent to the Prime Minister and all Members of the House of Commons. This is as follows:—

This Federation, representing nearly 1,000 Master Builders, and, we believe, the largest organisation of its kind, asks your serious consideration of the following matters which vitally affect the industry. We represent the medium- and smaller-sized builders, which are the backbone of the industry: registration figures and the expressed opinion of Ministers have proved this. It is therefore virtually for the whole industry that we plead.

It cannot be denied that the industry has been and is being exploited to a disgraceful extent since the outbreak of war by people who were, in some cases, outside its confines and have since hostilities commenced seen an outlet for capital energies and profit inside the industry, quite irrespective of trade experience.

The policy adopted and the lack of co-operation by the Ministries concerned (namely, the Ministry of Health, Ministry of Works and Buildings and other interested Ministries) has tended to cripple the backbone of the industry. If this policy is pursued there cannot be any doubt that the control of the operatives will pass into the hands of the large concerns, with the ultimate destruction of the firms we represent, thus creating a monopoly which we are all anxious to avoid, especially in post-war years.

Recent enactments which have been thrust upon the industry have been drawn up by responsible Government officials in conjunction with the representatives of the large contracting firms, and the opinion of the industry as a whole has never been sought. May we trouble you to consider the following facts: From January 1 no builder can carry out any work whatever on any one building in excess of £100 (which is retrospective for twelve months) without a licence. This means, in many cases, virtual cessation of business, with consequent dismissal of staff; this staff will find its way to such large firms who hold the whole of Government contracts, and therefore, for a firm employing from 20 to 50 operatives to attempt to obtain, either individually or collectively, a Government contract is a hopeless proposition. Is this state of affairs to continue in the second largest industry in the country?

Again, the Ministry of Health has recently issued instructions to all local authorities to considerably reduce operatives employed by them through contractors. The decision as to how this reduction is to be effected is left with the responsible official of the local authority, and he is in a position to please himself as to what course he adopts. As an example of the serious position arising, we would bring to your notice the following:

(a) In one Borough about 24 contractors, each employing up to and in excess of 20 men, have been given notice to terminate their contracts in ten days, to remove their plant, and leave such material as they have on the site, for which the local authority will reimburse them. In this particular Borough there is a considerable amount of work to be executed.

(b) The Ministry have issued instructions to the local authorities to select firms, together with a certain number of operatives to form a garrison, and guarantee such firms work. Selection again is left to the discretion of the local official—which is tantamount to the Ministry of Health dictating through a borough employee as to which firms in the industry shall be preserved, irrespective of the exigencies of the trade within the Borough. Is such treatment just or equitable?

May we now bring to your notice the activities of the War Damage Commission? Many builders have sunk their available capital in carrying out repairs to property damaged by enemy action, relying on the Commission for payment. The Commission is getting further and further behind with settlements, and we have cases where payments are outstanding for many months. The capital of many builders is exhausted, and they are unable to undertake further work until they obtain some settlement from the Commission. There is a vast volume of this type of work to be carried out, and the builder will finance it for the customary trade period; but his capital is locked up and he can go no further. Here, again, exploiters are stepping in, to the industry's detriment.

Generally, in our opinion, the industry is being forced into an impossible position, and we are quite confident that you, perhaps, are not aware or appreciative of the bureaucratic manner in which the industry is being handled by the responsible Departments. A man who has been in the industry all his life, whose business has been handed down from father to son and may have been established for over 100 years, is surely entitled to fair treatment.

We submit that the time has arrived when an inquiry is of paramount importance to save the oldest industry from disintegration and the total collapse of those who, we consider, form the major part of the industry, especially having regard to post-war conditions and the national interest.

We look to you to interest yourself in this vitally important matter and, bearing in mind our democratic views, to bring this question before the House.

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BUILDING FOR THE NATION

A PEP BROADSHEET.

A BROADSHEET, dated December 30, 1941, has been issued by Political and Economic Planning (P.E.P.), 16, Queen Anne's Gate, S.W.1, and contains an interesting review of the building industry and of Professional Organisation in Building (referred to in our leading article in this issue). We take the following extracts from the broadsheet:—

With the close of hostilities the importance of the industry will become far greater than it has ever been before either in war or in peace. On its efficiency and its ability to provide useful and continuous employment and to distribute purchasing power must also largely depend our success or otherwise as a nation in avoiding another disastrous post-war slump. At the same time its efficiency as a productive unit will be in inverse ratio to the extent to which it is used as a substitute for the Assistance Board.

In order to rise to these responsibilities, perhaps greater than any which a British industry has ever had to bear, the leaders of building have to find some way of effectively combining the skill and enterprise of individualism with the continuity and integrity of a modern public service. The haphazard methods of 1939, already inadequate for the needs of that time, must be frankly recognised as entirely unsuited to the huge task in prospect.

On the "BASIC PRINCIPLES OF PROFESSIONAL ORGANISATION," the broadsheet states:

The weaknesses which have been diagnosed in the professional organisation of the building industry call for action on the following lines:—

(i) Responsibility for design and for co-ordination of services involved in the preparation of plans and other necessary documents for subsequent general supervision should rest upon the architect or engineer according to the nature of the project.

(ii) Responsibility for measurement services—quantities and costs—on the basis of the particulars provided, should be placed entirely on the quantity surveyor. The quantity surveyor is responsible for advising the architect, with whom he co-operates closely in the preparation of the original particulars and in relation to the subsequent variations. The quantity surveyor, however, also exercises a judicial function when accounts are settled, and in this capacity should remain independent of the other members of any professional group.

(iii) Responsibility for co-ordinating work in the progress of erection should be clearly defined, whether co-ordination comes under the general supervision of the architect or whether a new profession of specialised co-ordinators comes into being. If it remains a responsibility of the architect, co-ordination must be provided much more efficiently than is possible at the clerk of works' or general foreman's level.

(iv) The threefold service of co-ordination, design and measurement can be provided either (i) by the architect and individual specialists, (ii) by groups of architects, (iii) by an inter-professional group. The suitability of these three chief types of professional organisation in particular cases depends upon the scale and complexity of the work in hand. For small work there is no reason

why the single architect should not carry out all these services. But the building programmes of the war are, and of the post-war period will be, both large in scale and complex in character.

(v) Responsibility and payment for design, measurement, and professional co-ordination services should be kept completely distinct from the provision of building materials and from contracting and sub-contracting work. It should be the subject of a distinct agreement with the building owner, and the services and fee or fees should be fully and plainly specified. It is desirable to review the comparative scales and methods of remuneration among the various professions and to place them on a more equitable common basis. It is essential that the salaries offered to technicians in public services should compare favourably with those carrying out similar work in private employment, and every effort should be made to enlist the best brains available. Further scope should be provided for the recruitment of a proportion of senior officials at a more mature age after varied experience of normal private, industrial and professional conditions.

(vi) The co-ordination achieved through the above reorganisation of design and measurement services should be directed to ensure proper particulars as the basis of building policy and of national standards of cost control.

(vii) The organisation of the services of contractors calls for a similar critical analysis. The contractor is the third party in the building executive control, but his responsibilities are not always clearly defined, nor is it normally possible, under present conditions, for him to have the professional status of the other parties. In view of their importance it is highly desirable that the services of the building contractor should be governed by professional standards comparable to those governing the services of the other parties.

"Public Policy in War Time." In war time the public recognises the Government directly or indirectly as the sole building owner. It is important, therefore, that the Government should fulfil all the responsibilities of a building owner and that it should use its enormous influence to improve the efficiency of the industry in every possible way. Above all, it should seek (a) to exorcise haste from building policy, thereby ensuring speed, and (b) to encourage new forms of organisation, both departmental and in private enterprise, which will achieve the best output with the minimum of manpower.

Cement Prices.

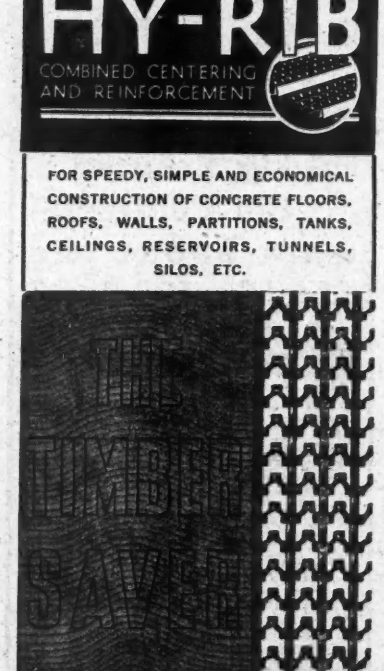
In the Comparison of Prices (given in our last issue) it was stated that the prices of Portland cement at January, 1941, and January, 1942, were £2 9s. 6d. and £2 16s. 6d. respectively. Inasmuch as for 1941 the cost of paper bags at 6s. net per ton of cement has been omitted, but added at 7s. per 1942, our statement is misleading, and to be correct it should read, if the cost of paper bags is omitted, at 49s. 6d. for last year or, with the cost of paper bags added, at 55s. 6d. for January, 1941, and 56s. 6d. for January, 1942. These prices are, of course, for delivery within the London area in specified minimum loads, and the cost of packages is a net extra; the increase of 1s. per ton for paper bags became operative on October, 30, 1941.

UNITED ARTISTS AT THE ROYAL ACADEMY

The second United Artists' Exhibition at the Royal Academy in aid of the Red Cross and St. John Fund should receive the support it so well deserves. Here is a threefold opportunity for picture-lovers: (1) To benefit a great cause; (2) to help the artist; and (3) to acquire a picture for one's own enjoyment.

Of architectural interest are the unusual views of many of London's historic buildings which have been bombed. No. 38, "St. Paul's from Cannon-street," by James Wilkie, is one of special interest; No. 24, "Guildhall, 1941," by Alfred E. Bottomley; and No. 935, "St. Lawrence Jewry," by Marjory Whittington, are others. Among the multiplicity of subjects of reasonable price might be mentioned No. 917, "Corner of Mousehole," by William Todd-Brown, a study executed with great surety and directness. No. 582, "Above the Saltmarshes," by Lucy Kemp-Welch, showing horses at work, is direct, fresh and clean in colour. No. 102, "At the Window," is a pleasing head-and-shoulder figure study of a girl—not the customary "dolly" type—by Ethel Gabain. No. 365, "The Guildhall, Lavenham," by Arthur C. Fare, is a water-colour faithfully and accurately recording this picturesque old Guildhall and other buildings of this charming Suffolk village. Many others of the 1,478 exhibits deserve mention, but space will not allow.

Some 201 works were sold for £4,206 at the first exhibition in 1940, so that each of these funds received over £1,000 from the artists. In addition to the Royal Academy some 26 other art societies are contributing to the exhibition.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REGISTRATION OF BUILDERS

NEW LABOUR RETURN REQUIRED.

The Minister of Works has made an Order under Defence Regulation 56AB calling upon all building and civil engineering contractors who are operating under Provisional Certificates of Registration, issued under that Regulation, to furnish particulars of the operatives on their pay-rolls on the pay-day in the week commencing Monday, January 19, 1942.

Forms B.C.E.3A will be despatched to all persons concerned within the next few days, and should any registered person or company not receive one by Thursday, January 22, a postcard should be sent at once to the Chief Engineer, Building and Civil Engineering Contractors, Ministry of Works and Buildings, Sanctuary-buildings, 18, Great Smith-street, Westminster, London, S.W.1, stating the name, present address and the number given on the Provisional Certificate of Registration.

It is in the national interest that this return should be made accurately and promptly, and persons concerned are reminded that failure to make the return renders them liable to prosecution under the Defence Regulations. Any person holding a Provisional Certificate endorsed to the effect that his business is suspended will not be required to make the return, but all others must do so not later than Tuesday, January 27.

OFFICIAL NOTIFICATIONS

Control of Timber.

The Ministry of Supply announce that the Timber (Charges) (No. 5) Order, 1942, was made by the Treasury to come into force on January 5. The Order consolidates the provisions of previous Timber (Charges) Orders and makes a number of minor adjustments consequential to the Control of Timber (No. 21) Order, 1941. Copies of the Order can be obtained from H.M. Stationery Office, York House, Kingsway, W.C.2, or through any bookseller (price 3d.).

Machinery, Plant and Appliances.

The Board of Trade announce that new provisions affecting machinery licensing are contained in the Machinery, Plant and Appliances (Control) Order, 1942 (S.R. & O., 1942, No. 1) issued by the Board of Trade and available from H.M. Stationery Office or through booksellers.

The Order replaces the whole of the previous Machinery and Plant (Control) Orders and Machinery, Plant and Appliances (Control) Orders, with the exception of the three General Licences (S.R. & O., 1941, Nos. 777, 1164 and 1392), and embodies certain amendments and additions.

The new provisions have the effect of subjecting to licence machinery and plant for dyeing made-up goods and of exempting from licence (a) machinery, plant and appliances supplied to a manufacturer of machinery or plant not included in the Schedule to the Order and for use with any such machinery, plant and appliances made or in course of construction; and (b) prime movers or electrical machinery or plant for driving machinery or plant for the supply of which a licence has been granted under the Orders and for which driving means are not already available.

Application forms for licences to acquire machinery, plant or appliances falling within the Schedule to the Order may be obtained from the Machinery Licences Division, Board of Trade, 1-6, Tavistock-square, London, W.C.1.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the head of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING.

JANUARY 26.

Coventry T.C. — Reconstruction of (a) public surface shelters; (b) domestic communal surface shelters (flat roof type); (c) domestic communal surface shelters (arched roof type). City Engineer's Office, 9, Hay-la., Coventry. Dep. £3 3s.

JANUARY 27.

Belfast Gas Committee.—Brick protection walls and concrete foundations. Eng. and Manager, Gasworks, Ormeau-rd., Belfast.

JANUARY 28.

Epsom and Ewell T.C.—Lavatory accommodation at public trench shelters. B. E. Dep. £1 1s.

Surbiton T.C.—Strengthening of A.R.P. personnel shelter and construction of control room. B.E. and S. Dep. £1 1s.

Wellington (Salop) R.D.C.—Erection and completion of 194 dwelling houses, Donnington. J. Brian Cooper, F.R.I.B.A., Coleridge-chbrs., 177, Corporation-st., Birmingham, 4. Dep. £2 2s.

JANUARY 30.

Derbyshire C.C.—15 brick decontamination boiler sheds on various sites. County S.

†Staffs C.C.—New divisional police headquarters, Tettenhall. Clerk of the C.C. Dep. £2 2s.

JANUARY 31.

Limerick Dominican Fathers.—New Priory. P. J. Sheahan, 47, O'Connell-st., Limerick. Dep. £20.

West Riding C.C.—Structural alterations at Hoyle Fold Farm, Keighley. West Riding Architect, County Hall, Wakefield.

PAINTING, ELECTRIC LIGHTING,

JANUARY 28.

Belfast Civil Defence Authority.—(1) heating and (2) plumbing installations, ambulance depot and canteen, (3) heating and (4) plumbing installations, first-aid and cleansing station. City S. (Architectural Section, Room 92), City Hall.

JANUARY 30.

†Staffs C.C.—New divisional police headquarters, Tettenhall.—(a) Installation of heating and domestic hot water services; (b) installation of electric services. Clerk of the C.C. Dep. £2 2s. in each case.

JANUARY 31.

Bristol Port Authority.—Painting nine quayside cranes. Chief Engineer, Avonmouth Docks, Bristol.

FEBRUARY 9.

Waterford Joint Committee of Management.—Electrical installation at mental hospital. T. H. M. Wain, Consulting Eng., 23, South Mall, Cork. Dep. £5 5s.

MATERIALS.

JANUARY 26.

Sutton-in-Ashfield U.D.C. — Road materials. S.

JANUARY 29.

Lambeth B.C.—Builders' materials, etc. G. H. Burkett.

JANUARY 30.

Bootle C.B.—Road materials, etc. B. E. and S.

Hunts C.C.—Road materials, etc. County S.

ROAD, SEWERAGE AND WATER WORKS.

JANUARY 26.

Antrim C.C.—Road works. County Surveyor's Office, County Courthouse, Crumlin-rd., Belfast.

JANUARY 28.

Cambridge T.C.—12 static water supply tanks. B. E. and S.

FEBRUARY 4.

Yeovil R.D.C.—Laying of approx. 110 yds. of 9 in. dia. sewers. S. Dep. £2 2s.

FEBRUARY 6.

Birmingham T.C.—Extension of sewage disposal works. Chief Eng. and Manager, 14, Dale-end, Birmingham. Dep. £2.

PUBLIC APPOINTMENTS.

JANUARY 27.

Leeds T.C.—Temporary Architectural Assistant. City E.

***Luton T.C.** — Temporary Technical Assistant. F. Oliver, B. E.

JANUARY 29.

Potters Bar U.D.C.—Temporary Engineering Assistant. E. and S.

JANUARY 30.

Bootle C. B.—Temporary Chief Clerk and Head Timekeeper. B. E. and S.

TRADE NEWS

Withdrawal of Hall's Distemper.

Sissons Brothers and Company, Ltd., of Hull, announce that they have decided to discontinue the manufacture of Hall's Distemper "for the duration," rather than supply an inferior article to a necessarily modified formula. Their many friends in the decorating trade will undoubtedly approve the course taken, in the certain knowledge that when the war is over and raw materials are again freely available, Sissons will again supply "Hall's Distemper" of the same high standard they intend to maintain.

Meanwhile, we understand its place will be taken by Sissons Water Paint, an efficient war-time substitute, made from the best materials procurable. Sissons Water Paint is available in a range of 27 popular colours taken from Hall's Distemper tint book, in addition to black and white.

A.A.S.T.A. Diary.

Excellently produced and full of up-to-date and well-indexed material, this diary is now published by the Association of Architects, Surveyors and Technical Assistants. This is the 21st edition of the diary, and it has been completely revised to meet the occasion. Price 3s. 2d. post free (2s. 8d. to members), it is obtainable from 113, High Holborn, W.C.1.

FEDERATED EMPLOYERS'
ESTABLISHED 1904
INSURANCE LTD. ASSOCIATION

The Leading Office for

Contract Guarantee Bonds

ALSO

FIRE
WORKMEN'S COMPENSATION
PUBLIC LIABILITY
MOTOR

ETC. ETC.

Head Office:
8 KING STREET, MANCHESTER, 2
London Office:
23, Lawrence Lane, Cheapside, London, E.C.2

A.R.P. SCHEMES

LONDON.

Camberwell.—B.C. placed contract with Greenaway & Sons, Ltd., 265a, Lordship-la., S.E.22, at £2,830, for rebuilding garage and A.R.P. store.

PROVINCIAL.

Barnard Castle.—R.D.C. propose extensions and alterations to fire station at Evenwood. Plans by J. Middleton, S.

Belfast.—Civil Defence Authority have placed contract with J. J. & R. McCloskey, 94, Divis-st., Belfast, for installation of low-pressure heating systems at two rescue depots.

Billingham-on-Tees. — U.D.C. seeking sanction from Durham Co. E.C. for heating and lighting of school shelters.—Thornton Construction Co., Ltd., Stockton-on-Tees, have secured contract, at £720, for 32 shelters for U.D.C.

Chesterfield.—A. F. White, 198, Derby-rd., Chesterfield, has secured contract, at £847, for messroom and fire-watchers' accommodation at public abattoir, for T.C. Plans by W. S. Wilson, B.S.

Durham.—C.C. to proceed with work of improving and strengthening public shelters at Hebburn. Plans by J. W. Merrett, Shire Hall, County S.

Gateshead.—T.C. to erect water basin, at £343.

Hull.—T.C. propose installation of electric fans for ventilating rescue, decontamination and repair depots.

Lancashire. — E.C. propose additional shelters and strengthening of existing school shelters in elementary schools in various districts; also electric lighting of school shelters. Plans by A. Evans, County Architect, County Offices, Preston.

Leeds. — T.C. propose cleaning down, preparing, whitewashing, painting, etc., trench shelters and communal surface shelters. W. S. Cameron is City E.

Matlock.—Contract for static water-tank secured by Ben Beddington, School-rd., Matlock, at £225. Plans by J. Turner, S.

Newcastle-on-Tyne.—Following tenders accepted by City Council for additional wardens' posts: R. W. Fullerton, Beatrice-rd. (6), £753; Jackson & Sons, Corporation-st. (23), £2,886; G. C. Carr, Bk. New Bridge-st. (24). £3,012; and J. T. Main, Elswick-rd. (1). £106. (All of Newcastle-on-Tyne.)

North Riding.—C.C. propose decontamination and cleansing depot at Richmond, at £1,500. Plans by R. T. Sawtell, County Hall, Northallerton, County S.

Rotherham.—Works for T.C.: Medical rest centre at sanatorium; incendiary-bomb training huts, at £270; alterations to buildings for fire guard; conversion of Frederick-st. surface shelter into medical aid post. Plans by V. Turner, B.E.

Salford.—E.C. propose strengthening older type school shelters.

Salford.—T.C. propose static water storage basins on seven sites.

Sheffield.—J. M. Collie, City E., to construct static water lagoons and tanks on selected sites in accordance with specifications, bills of quantities and schedule of prices adopted for this work by Regional Works Adviser.

Sheffield.—Plans approved for police post, first-aid and fire pump trailer houses for Excelsior Motor Radiator Co., Ltd.

South Shields.—Tenders to be invited for storage shed, at £200, or cleansing depot. Plans by A. G. Richardson, Acting B.E.

Stretford.—T.C. seeking sanction from Regional Commissioner for heating and lighting by electricity of 84 school shelters.

Tamworth.—R.D.C. received sanction of M.H. for six 50-person shelters on various sites. Plans by B. K. Nightingale, S.

Warrington.—T.C. approved fire station for J. & W. N. Hutchings.

SCOTLAND.

Edinburgh.—T.C. to proceed immediately with provision of overhead protection at Portobello and Braid-pl. police stations. Plans by City Architect.

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st JUNE, 1941

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.		Crafts-men.	Lab-ourers.
Aberavon	1/10½	1/5½	Clitheroe	1/10½	1/5½	Isle of Thanet	1/8½	1/4½	Saxmundham	1/7	1/3
Aberdare	1/10½	1/5½	Cobham (Surrey)	1/9½	1/5	Isle of Wight	1/8	1/3½	Scarborough	1/10	1/5½
Abergavenny	1/10½	1/5½	Colchester	1/10	1/5½	Keighley	1/10½	1/5½	Scunthorpe	1/10½	1/5½
Abingdon	1/9	1/4½	Colwyn Bay	1/9½	1/5	Kenilworth	1/10½	1/5½	Selby	1/10½	1/5½
Accrington	1/10½	1/5½	Congleton	1/10	1/5½	Kettering	1/10½	1/5½	Sevenoaks	1/9	1/4½
Aldeburgh	1/7	1/3	Coventry	1/10½	1/5½	Kidderminster	1/10	1/5½	Sheerness	1/8½	1/4½
Aldershot	1/9	1/4½	Cranbrook	1/8½	1/4½	King's Lynn	1/8½	1/4½	Sheffield	1/10½	1/5½
Alfreton	1/10½	1/5½	Cranleigh	1/8½	1/4½	Kirkham	1/10½	1/5½	Shipley	1/10½	1/5½
Alnwick	1/10	1/5½	Crawley	1/8½	1/4½	Knowle	1/10	1/5½	Shoeburyness	1/10	1/5½
Altrincham	1/10½	1/5½	Crewe	1/10	1/5½	Lancaster	1/10½	1/5½	Shoreham	1/9½	1/5
Amble	1/10	1/5½	Cromer	1/7½	1/3½	Leamington	1/10½	1/5½	Shrewsbury	1/10	1/5½
Amersham	1/9	1/4½	Crowborough	1/8½	1/4½	Leatherhead	1/9½	1/5	Sittingbourne	1/8½	1/4½
Ammanford	1/10½	1/5½	Cuckfield	1/8½	1/4½	Leeds	1/10½	1/5½	Skegness	1/9½	1/5
Andover	1/8½	1/4½	Darlington	1/10½	1/5½	Leicester	1/10½	1/5½	Sleaford	1/9	1/4½
Ardingly	1/8½	1/4½	Darwen	1/10½	1/5½	Leighton Buzzard	1/7½	1/3½	Slough	1/9½	1/5
Arundel	1/8½	1/4½	Daventry	1/9	1/4½	Letchworth	1/9½	1/5	Southampton	1/10	1/5½
Ascot	1/8½	1/4½	Deal	1/8½	1/4½	Lewes	1/8½	1/4½	Southend-on-Sea	1/10	1/5½
Ashby-de-la-Zouch	1/10½	1/5½	Denbigh	1/9½	1/5	Lichfield	1/9½	1/5	Southport	1/10½	1/5½
Ashford (Kent)	1/8½	1/4½	Derby	1/10½	1/5½	Lincoln	1/10½	1/5½	South Shields	1/10½	1/5½
Ashford (Middlesex)	1/10½	1/5½	Devizes	1/7½	1/3½	Littlehampton	1/8½	1/4½	Spalding	1/8½	1/4½
Ashington	1/10	1/5½	Dewsbury	1/10½	1/5½	Liverpool	‡2/0½	¶	Stafford	1/10	1/5½
Ashtead	1/10½	1/5½	Didcot	1/8½	1/4½	Llandudno	1/9½	1/5	Staines	1/9½	1/5
Ashton-under-Lyne	1/10½	1/5½	Diss	1/7	1/3	Llanelly	1/10½	1/5½	Stamford	1/9½	1/5
Aylesbury	1/8½	1/4½	Doncaster	1/10½	1/5½	London—			Stevenage	1/9½	1/5
Aylsham	1/7½	1/3½	Dorchester	1/8	1/3½	12m. radius	*2/0	1/6½	Stockport	1/10½	1/5½
Bagshot	1/8½	†1/4½	Dorking	1/9	1/4½	12-15m. radius	*1/11½	1/6½	Stockton-on-Tees	1/10½	1/5½
Banbury	1/8½	1/4½	Dover	1/8½	1/4½	Long Eaton	1/10½	1/5½	Stoke-on-Trent	1/10½	1/5½
Barnsley	1/10½	1/5½	Dovercourt	1/8½	1/4½	Longton	1/10½	1/5½	Stourbridge	1/10½	1/5½
Barnstaple	1/8½	1/4½	Driffield	1/9	1/4½	Loughborough	1/10½	1/5½	Stourport	1/10	1/5½
Barrow-in-Furness	1/10½	1/5½	Droitwich	1/10	1/5½	Louth	1/9	1/4½	Stowmarket	1/7½	1/3½
Barry	1/10½	1/5½	Dudley	1/10½	1/5½	Lowestoft	1/8½	1/4½	Stratford-on-Avon	1/9½	1/5
Basingstoke	1/8½	1/4½	Dunstable	1/9	1/4½	Luton	1/10	1/5½	Stroud	1/9½	1/5
Bath	1/10	1/5½	Durham City	1/10½	1/5½	Macclesfield	1/10	1/5½	Sunderland	1/10½	1/5½
Batley	1/10½	1/5½	Eastbourne	1/9½	1/5	Maidenhead	1/9½	1/5	Sutton Coldfield	1/10½	1/5½
Beaconsfield	1/9	1/4½	E. Glam. (Mon. Val.)	1/10½	1/5½	Maidstone	1/9	1/4½	Swaffham	1/7	1/3
Beccles	1/7	1/3	East Grinstead	1/8½	1/4½	Malvern	1/9	1/4½	Swanage	1/8½	1/4½
Bedford	1/10	1/5½	Edenbridge	1/8½	1/4½	Manchester	1/10½	1/5½	Swansea	1/10½	1/5½
Berkhamsted	1/8½	1/4½	Ely	1/7½	1/3½	Manningtree	1/7½	1/3½	Swindon	1/9	1/4½
Berwick	1/10	1/5½	Epping	1/10½	1/5½	Mansfield	1/10½	1/5½	Tamworth	1/10	1/5½
Beverley	1/10½	1/5½	Exeter	1/10	1/5½	March	1/7½	1/3½	Taunton	1/9	1/4½
Bexhill-on-Sea	1/9	1/4½	Exmouth	1/9	1/4½	Margate	1/8½	1/4½	Tenterden	1/8½	1/4½
Bideford	1/8½	1/4½	Fakenham	1/7½	1/3½	Market Harborough	1/9½	1/5	Thames Haven	1/10½	1/5½
Biggleswade	1/8½	1/4½	Falmouth	1/9	1/4½	Matlock	1/9	1/4½	Thetford	1/8	1/3½
Billericay	1/8	1/3½	Fareham	1/9½	1/5	Melton Constable	1/7	1/3	Thorpe Bay	1/10	1/5½
Birchington	1/8½	1/4½	Faversham	1/8½	1/4½	Melton Mowbray	1/9½	1/5	Todmorden	1/10½	1/5½
Birkenhead	‡2/0½	¶	Felixstowe	1/9½	1/5	Merthyr	1/10½	1/5½	Tonbridge	1/9	1/4½
Birmingham	†1/10½	1/5½	Filey	1/9	1/4½	Middlesbrough	1/10½	1/5½	Torquay	1/10	1/5½
Bishop Auckland	1/10½	1/5½	Fleetwood	1/10½	1/5½	Middleton	1/10½	1/5½	Totnes	1/8½	1/4½
Bishop's Stortford	1/9½	1/5	Flint	1/10½	1/5½	Middlewich	1/10	1/5½	Trowbridge	1/7½	1/3½
Blackburn	1/10½	1/5½	Folkestone	1/8½	1/4½	Milford Haven	1/9	1/4½	Truro	1/8	1/3½
Blackpool	1/10½	1/5½	Frinton-on-Sea	1/8½	1/4½	Morecambe	1/10½	1/5½	Tunbridge Wells	1/9	1/4½
Blyth	1/10½	1/5½	Frome	1/7½	1/3½	Morley	1/10½	1/5½	Uppingham	1/9	1/4½
Bognor Regis	1/8½	1/4½	Gainsborough	1/9½	1/5	Mundesley	1/7½	1/3½	Uttoxeter	1/9	1/4½
Bolton	1/10½	1/5½	Gateshead	1/10½	1/5½	Nantwich	1/10	1/5½	Wakefield	1/10½	1/5½
Bournemouth	1/9½	1/5	Gillingham (Kent)	1/9½	1/5	Nelson	1/10½	1/5½	Walsall	1/10½	1/5½
Bracknell	1/8½	1/4½	Glossop	1/10½	1/5½	Newark-on-Trent	1/10	1/5½	Walsden	1/10½	1/5½
Bradford	1/10½	1/5½	Gloucester	1/10	1/5½	Newbury	1/8½	1/4½	Walton-on-Naze	1/8½	1/4½
Bradford-on-Avon	1/7½	1/3½	Godalming	1/8½	1/4½	Newcastle-on-Tyne	1/10½	1/5½	Ware	1/10	1/5½
Braintree	1/8½	1/4½	Goole	1/10½	1/5½	Newcastle-u.-Lyme	1/10½	1/5½	Warminster	1/7½	1/3½
Brentwood	1/10	1/5½	Gosport	1/10	1/5½	New Forest	1/8½	1/4½	Warrington	1/10½	1/5½
Bridgwater	1/9	1/4½	Grantham	1/9½	1/5	Newmarket	1/8½	1/4½	Warwick	1/10½	1/5½
Bridlington	1/10	1/5½	Gravesend	1/10	1/5½	Newport, Mon.	1/10½	1/5½	Wellington R.D.	1/10	1/5½
Brighouse	1/10½	1/5½	Great Yarmouth	1/8½	1/4½	Newport Pagnell	1/8½	1/4½	Welwyn	1/9½	1/5
Brighton	1/9½	1/5	Grimsby	1/10½	1/5½	Northampton	1/10½	1/5½	Welwyn Gar. City	1/10½	1/5½
Bristol	1/10½	1/5½	Guildford	1/8½	1/4½	Norwich	1/10½	1/5½	Wells (Norfolk)	1/7	1/3
Broadstairs	1/8½	1/4½	Guilsborough	1/9	1/4½	Nottingham	1/10½	1/5½	West Bromwich	1/10½	1/5½
Bromsgrove	1/10	1/5½	Halifax	1/10½	1/5½	Nuneaton	1/10½	1/5½	Westcliff-on-Sea	1/10	1/5½
Buckley	1/10½	1/5½	Hanley	1/10½	1/5½	Oakham	1/9	1/4½	Weston-super-Mare	1/9½	1/5
Bungay	1/6½	1/2½	Harpenden	1/9½	1/5	Oldham	1/10½	1/5½	Weybridge	1/9½	1/5
Burnham-on-Crouch	1/7	1/3	Harrogate	1/10½	1/5½	Ormskirk	1/10½	1/5½	Weymouth	1/8½	1/4½
Burnley	1/10½	1/5½	Hartlepools	1/10½	1/5½	Oxford	1/10	1/5½	Whitby	1/9½	1/5
Burslem	1/10½	1/5½	Harwich	1/8½	1/4½	Oxted	1/9	1/4½	Whitstable	1/8½	1/4½
Burton-on-Trent	1/10½	1/5½	Haslemere	1/8½	1/4½	Paignton	1/10	1/5½	Widnes	1/10½	1/5½
Bury	1/10½	1/5½	Hastings	1/8½	1/4½	Peterborough	1/10	1/5½	Wigan	1/10½	1/5½
Bury St. Edmunds	1/8	1/3½	Hatfield	1/10	1/5½	Plymouth	1/10½	1/5½	Wigton	1/9	1/4½
Buxton	1/10	1/5½	Haywards Heath	1/8½	1/4½	Pontefract	1/10½	1/5½	Willington	1/10½	1/5½
Byfleet	1/9	1/4½	Hednesford	1/10	1/5½	Pontypridd	1/10½	1/5½	Wilmslow	1/10½	1/5½
Cambridge	1/10½	1/5½	Hemel Hempstead	1/9½	1/5	Port Talbot	1/10½	1/5½	Winchester	1/9	1/4½
Canterbury	1/8½	1/4½	Henley-on-Thames	1/8½	1/4½	Portsmouth	1/10	1/5½	Windermere	1/9	1/4½
Cardiff	1/10½	1/5½	Hereford	1/8½	1/4½	Preston	1/10½	1/5½	Windsor	1/9½	1/5
Carlisle	1/10½	1/5½	Herne Bay	1/8½	1/4½	Pulborough	1/8½	1/4½	Wisbech	1/8	1/3½
Carnforth	1/10½	1/5½	Hertford	1/10	1/5½	Ramsgate	1/8½	1/4½	Witham	1/8½	1/4½
Castleford	1/10½	1/5½	Heysham	1/10½	1/5½	Reading	1/10	1/5½	Woking	1/9	1/4½
Caterham	1/10½	1/5½	Hitchin	1/9½	1/5	Redditch	1/10	1/5½	Wokingham	1/8½	1/4½
Chard	1/7½	1/3½	Hoddesdon	1/10	1/5½	Redhill	1/9	1/4½	Wolverhampton	1/10½	1/5½
Chatham	1/9½	1/5	Holt (Norfolk)	1/7	1/3	Ripon	1/9	1/4½	Woodbridge	1/8	1/3½
Chelmsford	1/10	1/5½	Horley	1/8½	1/4½	Rochdale	1/10½	1/5½	Worcester	1/10	1/5½
Cheltenham	1/9½	1/5	Horsham	1/8½	1/4½	Rochester	1/9½	1/5	Workington	1/9	1/4½
Chepstow	1/10	1/5½	Horwich	1/10½	1/5½	Rugby	1/10½	1/5½	Worksop	1/10	1/5½
Chertsey	1/9½	1/5	Huddersfield	1/10½	1/5½	St. Albans	1/10	1/5½	Worthing	1/8½	1/4½
Chester	1/10½	1/5½	Hull	1/10½	1/5½	St. Helens	1/10½	1/5½	Wrexham	1/10	1/5½
Chesterfield	1/10½	1/5½	Hunstanton	1/7½	1/3½	St. Neots	1/8	1/3½	Wroxham	1/8	1/3½
Chichester	1/8½	1/4½	Huntingdon	1/8	1/3½	Saffron Walden	1/7½	1/3½	Wycombe	1/9½	1/5
Chorley	1/10½	1/5½	Ilfracombe	1/8½	1/4	Salisbury City	1/8	1/3½	Wymondham	1/7½	1/3½
Cirencester	1/8	1/3½	Ingatestone	1/9	1/4½	Salisbury Plain	1/9½	1/5	Yeovil	1/9	1/4½
Clacton	1/8½	1/4½	Ipswich	1/10	1/5½	Sawbridgeworth	1/9	1/4½	York	1/10½	1/5½
Cleveleys	1/10½	1/5½									

* Painters 1d. less than other Craftsmen. † Plus 2d. per working day. ‡ Plasterers 2/1.
¶ Tradesman's Labourers, 1/6½. Navvies and General Labourers, 1/6½.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

NOTE.—Carpenters and Joiners in all Towns and Districts (other than Birkenhead and Liverpool) receive 2d. per day Tool Allowance.

For Building Trade Wages in Scotland, see page 94.

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry. The prices of soft woods are for cash on delivery. At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.

BRICKS, &c.

The price for Stock Bricks has been altered to minimum price at works for full lorry loads. Sittingbourne district. A quotation for cartage should be obtained as the haulage question is difficult.

	£ s. d.
First Hard Stocks ..... per 1,000	4 5 6
Second Hard Stocks ..... "	3 18 6
Mild Stocks ..... "	3 5 6
Single Rough Stocks ..... "	2 19 6
Third Common Stocks ..... "	2 10 0

2½ in. Phorpres. A discount of 6d. 1,000 only monthly account.	King's Cross Station per 1,000 s. d.	To sites in W.C. District per 1,000 s. d.
Pressed	51 9	58 3
Keyed	53 9	60 3
Single Bullnose	71 9	78 3
Rustics	71 9	78 3
Whites	72 3	78 3

White Midhurst Best selected (delivered London site)	£ s. d. 5 10 0
Best blue Pressed Staffs. (London Stns.)	10 2 0
Do. Bullnose (London Stns.)	10 12 0
Blue Wire Cuts (London Stns.)	8 19 6

Best Stourbridge Fire Brick (London Stns.) :—

£ s. d.		£ s. d.
2½ in. 10 0 0	3 in.	12 0 0

GLAZED BRICKS. (London Stns.)

Best White Ivory and Salt Glazed	D'ble Str'tch'rs	36 10 0
	D'ble Headers	33 10 0
Stretcher 28 0 0	One side&two ends	37 10 0
Headers 27 10 0	Two sides&one end	38 10 0
Quoins, Bullnose and Splays and 4½ in. Flats 34 10 0	Squints	36 0 0

Second Quality, £2 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

	s. d.		s. d.
2" per yd. sup.	2 3	3" per yd. sup. ..	2 9
2½ " "	2 6	4" " " ..	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 9	3" per yd. sup. ..	2 6
2½ " "	2 1	4" " " ..	3 4

CRANHAM TERRA COTTA.

Size 12 x 9 x 2" per yd. super	2 6
Size 12 x 9 x 2½ "	2 9
Size 12 x 9 x 3" "	3 3
Size 12 x 9 x 4" "	3 7

Plus 2d. for smooth one side, and 4d. for smooth both sides.

Delivered : Free on site London area.

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

Per yard super d/d. Free on site, London.

STONE.

	s. d.
BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	3 3½
BEER STONE—RANDOM BLOCK—	
Free on rail at Seaton Station.. per ft cube	2 3
Delivered free on rail Nine Elms, S.R. "	3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.	
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., ...per ft. cube	4 7
Do. do. delivered on road waggons as above stations ..... per ft. cub.	4 7
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb.	13 2
Sawn two sides	26 11
Sawn three or four sides	31 11
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station, London.	
6 in. sawn two sides landings to sizes (under 30 ft. super) .....per ft. super	5 6
6 in. rubbed two sides, ditto .... "	6 3
3 in. sawn two sides slabs (random sizes) ..... "	2 7
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... "	1 8½
1¼ in. to 2 in. ditto ..... "	1 4½
HARD YORK—	
Delivered at any Goods Station, London.	
Scrappled random blocks .....per ft. cube	6 10
6 in. sawn two sides landings to sizes (under 40 ft. super) .....per ft.super	5 7½
6 in. rubbed two sides, ditto .... "	6 9
4 in. sawn two sides slabs (random sizes) ..... "	3 5
3 in. ditto ditto ..... "	2 8
2 in. self-faced random flags.....per yd. super	8 9

CAST STONE.

Delivered in London area in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Small section cills and copings, 11s.

SAND.

Thames Ballast	9s. 6d. per yd.	delivered 2 miles radius Paddington.
Pit Ballast	9s. 0d. " "	
Pit Sand	11s. 6d. " "	
Washed Sand	13s. 0d. " "	
¾ in. Shingle	10s. 0d. " "	
¾ in. Broken Brick	15s. 6d. " "	
Pan Breeze	9s. 6d. " "	

CEMENT.

Best British Portland Cement. Standard Specification. delivered London Area. £ s. d.

6 ton loads and upwards site ..... per ton	2 9 6
1 ton to 6 tons site	2 12 6
Alongside Vauxhall in 80 ton lots	2 7 0
"Ferrocrete" Rapid Hardening Cement—	
6 ton loads and upwards site	2 15 6
1 ton to 6 tons site	2 18 6
Alongside Vauxhall in 80 ton lots	2 13 0

Stored in Reserved Bins at works. 1s. 6d. per ton extra.

"Aquacrete" Water Repellent, "Blue Circle" cement, 30s. per ton extra on ordinary "Blue Circle" prices.

"Colorcrete" Nos. 1 and 2. Coloured Rapid Hardening Portland Cement, in 6-ton lots .. 3 19 6

"Colorcrete" not rapid hardening, according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement 10	5 0
"417" Cement (Ultra Rapid Hardening) Delivered site London Area in 6 ton lots and upwards ..... per ton	3 9 6

Plus packages at current prices.

Super Cement (Waterproof), *bags extra*	3 19 6

NOTE.—Paper bags will be charged at the rate of 7s. nett per ton. Jute sacks charged 1s. 9d. nett each and 1s. 6d. nett each allowed if returned to works within two weeks, in good condition.

Carriage will be paid by makers on returned empty jute sacks.

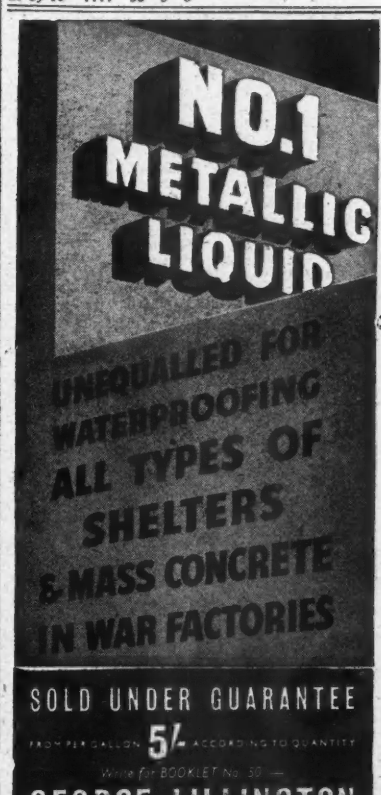
£ s. d.		£ s. d.
Roman cement 8 10 0	Keene's Cement, White	7 0 0
Parian Cement 7 0 0	" " Pink	6 10 0

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	45 5 0	18 by 10	24 0 0
22 by 12	37 17 6	18 by 9	22 12 6
22 by 11	34 2 6	16 by 10	21 10 0
20 by 12	33 0 0	16 by 8	16 12 6
20 by 10	30 5 0		


NO.1
METALLIC
LIQUID
UNEQUALLED FOR WATERPROOFING ALL TYPES OF SHELTERS & MASS CONCRETE IN WAR FACTORIES
SOLD UNDER GUARANTEE
FROM PER GALLON 5/- ACCORDING TO QUANTITY
Write for BOOKLET No. 30
GEORGE LILLINGTON
AND COMPANY LIMITED
TATE RD., SUTTON, SURREY. Phone: EWELL 1851

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	4 0 0	Sirapite, Coarse..	4 5 6
" White ..	4 7 6	" Finish ..	4 13 6
Pioneer	4 5 0		

Above prices for 4-ton loads and over London Area.

Best Ground Blue Lias Lime	3 7 6	Grey Stone Lime	2 17 6
		Chalk Lime	2 17 6
Granite Chippings	1 15 0	Hair per cwt. ..	3 5 0

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d. if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in paper bags, £2 12s. 6d. in 6-ton lots at railway depot.

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons..... Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£5 6 6
Ditto hand-made ditto	6 7 6
Ornamental ditto	6 14 0
Hip and valley tiles (per dozen) { Hand-made	0 12 9
{ Machine-made	0 12 3

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality. Foot cube.

	s. d.		£ s. d.
Dry English Wainscot Billets..	16 0	to	0 18 0
Dry Slavonian Billet Wainscot ..	17 0	to	1 0 0
Dry Cuba Mahogany logs	21 0	to	1 4 0
Square-edged Honduras Mahogany			0 16 6
Log Cut Honduras Mahogany			0 17 6
American Figured Oak			0 13 0
American Plain Oak			0 12 6
Jap. Figured Oak			0 13 0
Jap. Plain Oak			0 12 6
Teak			0 15 6
American Whitewood			0 12 6
African Whitewood			0 8 0
African Mahogany			0 11 0
Australian Walnut			0 19 0
Australian Silky Oak			0 12 6
Best Scotch glue ..... per cwt.			5 0 0
Liquid glue ..... per gallon			1 2 0

SOFT WOOD.

	MERCHANTABLE BRITISH COLUMBIAN PINE Minimum. £ s. d.	Maximum. £ s. d.
Scantlings in imported sizes, 2 in. by 3 in. to 4 in. by 11 in.	43 10 0	53 0 0

PLANED BOARDS.

PRIME CLEAR BRITISH COLUMBIAN PINE.

	Per standard. £ s. d.
1 in. by 11 in. } 1 in. by 9 in. }	67 10 0

	Per square. s. d.
1 in. plain edge flooring	53 0
1¼ in. ditto	66 6
1 in. tongued and grooved	53 0
1¼ in. ditto	66 6

MATCHING.

	Per square. s. d.
¾ in.	37 6
¼ in.	42 0
1 in.	55 0

PLUMBERS' BRASS WORK.

Delivered in London.

To pass Met. Water Board.

CRUTCH HEAD S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
37/-	58/6 per doz.

CHROMIUM PLATED TOILET S.D. BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
52/3	72/- per doz.

S.D. STOP COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/-	59/-	97/-	228/-	324/-	540/- per doz.

S.D.S. COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
53/-	84/-	136/-	252/-	405/-	664/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
9/11	11/-	17/6	29/3	49/6	71/- per doz.

HEAVY CROYDON BALL VALVES. SCREW IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
45/-	73/-	120/-	210/-	297/- per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
11/9	14/5	21/6	37/9	54/-	59/6 per doz.

BRASS SLEEVES.

1¼ in.	2 in.	3 in.	3½ in.	4 in.
10/9	13/6	25/-	37/-	46/- per doz.

LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1½ in.	1¼ in.	2 in.	3 in.
8 lb. Lead P. ..	26/-	34/8	48/3	84/- per doz.
8 lb. Lead S. ..	32/6	41/6	60/-	108/- "

SOLDER.—Plumbers, 1/5. Tinmen's, 1/8. Blow pipe, 1/10 per lb.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION PER TON—

R.S. Joists, cut and fitted	£23 10 0
Plain Compound Girders	26 0 0
Stanchions	28 10 0
In Roof Work	33 10 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	23 0 0	⅜ in. to ½ in.	21 10 0
⅝ in.	22 0 0	¾ in. to 2½ in.	21 0 0

WROUGHT TUBES AND FITTINGS.

Deliveries from works.

Deliveries from London stock further 2½ % gross.

10/17

	Tubes. ½"/6"	Tubulars. ½"/6"	and 19/24	Flanges. ½"/2"	2½"/6"
	%	%	%	%	%
Light weight	51½	—	47½	51	57½
Heavy weight	44	44	39½	41	49½
Galv.lightweight	40½	—	38½	39½	48½
Galv.heavyweight	31	31	31	29½	41

Tubes and tubulars sizes ½"/⅛" inclusive, charged extra of 5% less gross.

Fittings. Figs. 25/34 5% less gross discount.

Terms.—Nett cash end of month following date of invoice. Carriage paid on lots of £10 nett value and over.

C.I. HALF-ROUND GUTTERS—London Prices ex Works. per yd. in 6 ft. lengths.

	Gutters.	Nozzles.	Stop ends.
3 in.	1/5½	1/2½	4½d.
3½ in.	1/7	1/4	4½d.
4 in.	1/7	1/6	6½d.
4½ in.	1/8½	1/8½	7½d.
5 in.	2/0½	2/0	9d.

O.G. GUTTERS.

3 in.	1/10½	1/7½	5d.
3½ in.	2/1½	1/7½	6½d.
4 in.	2/1½	1/8½	7½d.
4½ in.	2/2½	1/11½	8½d.
5 in.	2/8½	2/3	10½d.

RAIN WATER PIPES.

Per yd. in 6 fts.	Pipe	Bends. Stock angles.	Branches.
2 in.	2/2½	1/5½	2/2
2½ in.	2/3½	1/8½	2/7½
3 in.	2/8½	2/1½	3/2
3½ in.	3/2½	2/6½	3/7½
4 in.	3/8½	3/0½	4/5

NETT PRICES.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock.

Per yd. in 6 fts.	Pipe.	Bends.	Branches.
2 in.	3/9½	2/7½	3/2
2½ in.	4/5	2/10½	3/11½
3 in.	4/9	3/2	4/8½
3½ in.	4/10½	3/11½	5/5½
4 in.	5/3½	4/5	6/3½

L.C.C. COATED DRAIN PIPE.

	Pipe.	Bends.	Branches.
3 in. per yd. in 9 fts.	5/5	6/3	9/11
cwt. qr. lbs.			
4 in. 1 1 20	7/11	7/1	12/6
5 in. 1 2 22	9/7	12/9	19/3
6 in. 2 0 6	11/5	14/8	25/6

Gaskin, 75/- per cwt.

	Per ton basis in London. £ s. d.
IRON.—Staffordshire Crown, Merchant quality	18 7 6
IRON.—Staffordshire Marked Bars	19 7 6
Mild Steel Bars	19 15 0
Mild Steel Hoops	21 10 0

	Ex Merchant's Stock, per ton (two-ton lots). £ s. d.
Soft Steel Sheets, C.R. and C.A.—	
20 gauge	24 17 6
24 gauge	25 2 6
26 gauge	25 17 6
Galvanised Corrugated Sheets, 6 ft. to 9 ft.	
20 gauge	27 0 0
24 gauge	27 10 0
26 gauge	28 15 0
Galvanised Flat Sheets, C.R. and C.A.—	
20 gauge	28 10 0
24 gauge	29 0 0
26 gauge	30 5 0
	Per ton. £ s. d.
Cut Nails, 3 in. and up	28 10 0

ALL NETT.

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil (5 galls.)	per gallon	0 5 5
Boiled Linseed Oil (5 galls.)	„	0 5 8
Turpentine (5 galls.)	„	0 8 9
Genuine Ground English White Lead, per cwt.		3 8 3
Genuine White Lead Paint, 14 lb. tins free,	per cwt.	4 11 0
Genuine Red Lead,	„	2 14 0
Linseed Oil Putty	„	1 1 3
Size. XD quality	ffkn.	0 4 3

Turpentine substitute can be obtained and prices vary according to quality from 3/3 gallon upwards.

		£ s. d.
SNOWCEM CEMENT PAINT	per cwt.	2 16 0
C.M.C. CAMOUFLAGE PAINT	„	2 16 0

VARNISHES, &c.

		Per gallon. £ s. d.
Oak Varnish	Outside	0 16 0
Fine do.	„	0 18 0
Fine Copal	„	1 0 0
Pale Copal	„	1 2 0
Pale Opal Carriage	„	1 6 0
Best do. do.	„	1 14 0
Floor Varnish	Inside	1 0 0
Fine Pale Paper	„	1 0 0
Fine Copal Cabinet	„	1 4 0
Fine Copal Flatting	„	1 2 0
Hard Drying Oak	„	1 0 0
Fine Hard Drying Oak	„	1 1 6
Fine Copal Varnish	„	1 2 6
Pale do.	„	1 14 0
Best do.	„	1 4 6
Best Japan Gold Size	„	1 14 6
Best Black Japan	„	0 12 0
Oak and Mahogany Stain (water)		0 14 0
Brunswick Black		0 9 6
Berlin Black		0 16 0
Knotting (patent)		0 17 0
French and Brush Polish		0 14 0
Liquid Dryers in Terebene		0 11 0
Cuirass Black Enamel		0 9 0

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	35 10 0
Pipe in coils	35 0 0
Soil pipe	40 10 0
Compo pipe	42 5 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills..... per ton } £18 0 0.

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY (O.Q.) AND SELECTED GLAZING QUALITY (S.Q.).

PER FOOT SUPER.

In sizes not exceeding 80 in. long or 48 in. wide or 110 united inches.

	O.Q.	S.Q.
18 oz. in 300 ft. cases	2½d.	2¾d.
24 oz. „ 200 ft. „	3½d.	4d.
26 oz. „ 200 ft. „	3¾d.	4½d.
32 oz. „ 200 ft. „	5½d.	6½d.
24 oz. „ 300 ft. cases	3½d.	3¾d.
26 oz. „ 300 ft. „	3¾d.	4½d.
32 oz. „ 300 ft. „	5½d.	6½d.
24 oz. Obscured Sheet		6½d.
Fluted, 21 oz.		9d.
Enamelled, 18 oz.		5½d.
„ 24 oz.		6½d.

Extra prices according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

Over 500 ft. super of all kinds.

	Per ft. s. d.
Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ⅜ in.	6½d.
Rough cast double rolled, ½ in.	6½d.
Figured rolled, and Cathedral, white	6½d.
Figured rolled and Cathedral, tinted	9½d.
Rolled Sheet	6d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½

Rolled plate is the same price as rough cast double rolled.

	per ft. s. d.
Wire Rolled, ¼ in. thick	0 9½
Wired Cast, ¼ in. thick	0 9½
Georgian Wired Cast	0 10
"Calorex" Sheet, 21 oz.	2 6
„ „ 32 oz.	4 0
„ Cast, ¼ in. thick	0 10
„ „ ⅜ in. thick	1 0
„ „ ½ in. thick	1 2
Non Actinic Glass, ¼ in. thick	0 9½
„ „ „ ⅜ in. thick	1 0
„ „ „ ½ in. thick	1 2

"VITA" GLASS.

	Per ft. s. d.
"Vita" Plate Glass, about ⅛ in. thick	
To 7 ft. super	5 0
Over 7 ft. super	7 6
"Vita" Sheet Glass, about 18/20 oz.	2 0
Cathedral "Vita" Glass :	
¼ in. thickness	2 0
⅜ in. „	3 0
½ in. Georgian Wired "Vita" Glass	3 6

GLASS BRICKS.

	s. d.	
P.B. 1—8 in. × 4½ in. × 3½ in.	2 3	each nett
P.B. 2—5½ in. × 5½ in. × 3½ in.	2 0	„
P.B. 3—7½ in. × 7½ in. × 3½ in.	3 0	„
P.B.32—7½ in. × 7½ in. × 3½ in.	3 0	„
Radiused Corner Bricks to match up with—		
P.B. 2	3 9	each nett
P.B. 3	5 0	„
P.B.32	5 0	„

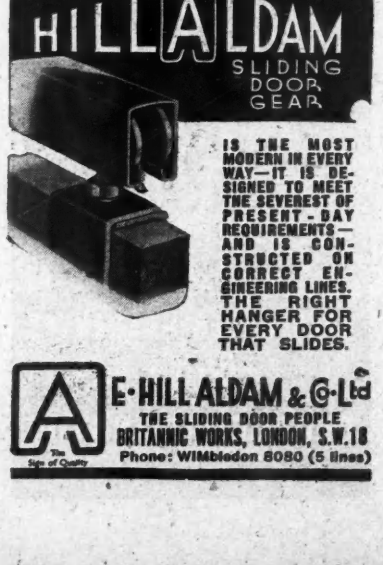
BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from October 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A1	A2	A3	B	B1
Craftsmen	1/11½	1/11	1/10½	1/10	1/9½	1/9
Labourers	1/6	1/5½	1/5½	1/5	1/4½	1/4½
Aberdeen	A					
Ayrshire	A					
Banff	B					
Berwickshire	A2					
Bridge of Allan	A					
Broughty Ferry	A					
Clackmannanshire	A					
Doune	A					
Dunblane	A					
Dumbartonshire	A					
Dumfries	A1					
Dumfriesshire		A2				
Dundee		A				
Duncon		A				
East Fife		A				
East Lothian		A				
Edinburgh		A				
Fifeshire		A				
Forfarshire		A2				
Glasgow		A				
Greenock		A				
Hamilton		A				
Inverness			•			
Inverurie			A1			
Kincardineshire			A2			
Kinross-shire			A			
Lanarkshire			A			
Midlothian			A			
Monifieth			A			
Moray and Nairn			B			
Newport			A			
Peebleshire			A2			
Perth			A			
Perthshire						A2
Peterhead						A1
Renfrewshire						A
Rothesay						A
Roxburghshire						A2
St. Andrews						A
Selkirkshire						A2
Stewartry						A2
Stirlingshire						A
Stornoway						A2
Tayport						A
West Lothian						A

*This town has its own rates.: Masons, 1/8½ ; Carpenters, 1/8½ ; Slaters, 1/8½ ; Plumbers, 1/9 ; Plasterers, 1/9½, but 1/10 is paid owing to the scarcity at present ; Painters, 1/8½ and Labourers, 1/4

The information given in this table is copyright. Rates of wages in England and Wales are given on page 92


HILL A LDAM
SLIDING DOOR GEAR
IS THE MOST MODERN IN EVERY WAY—IT IS DESIGNED TO MEET THE SEVEREST OF PRESENT-DAY REQUIREMENTS—AND IS CONSTRUCTED ON CORRECT ENGINEERING LINES. THE RIGHT HANGER FOR EVERY DOOR THAT SLIDES.
E·HILL ALDAM & Co·Ltd
THE SLIDING DOOR PEOPLE
BRITANNIC WORKS, LONDON, S.W.18
Phone: WIMbledon 8080 (5 lines)
The Sign of Quality

THE SCOTTISH BUILDER

NEW BUILDINGS

COATBRIDGE. — BUILDING.—Corporation to erect communal cooking centre to plans by John Spence, Municipal-bldgs.

GLASGOW.—BUILDING.—Plans in hand for canteen and lavatories for Smith, Fullerton & Co., Ltd., the architect being James Murray, 17, Springburn-rd., Glasgow.—Plans in hand for B.R. at Springburn-rd., the architect being Mr. Thomas Somers, Municipal-bldgs., George-sq., Glasgow.

A Swedish Concrete Novelty.

According to statements in the Stockholm Press, the Swedish cement concern, Skanska Cement A/B, has succeeded in producing a light-concrete material with 20-25 per cent. lower weight than earlier light-concrete types, but with unchanged strength. The new building material, called "Siporex," is stated to possess improved insulation capacity.

CURRENT AND PROPOSED NEW BUILDINGS

Bangor (Caernarvonshire). — T.C. approved scheme for improvement of water supply, at £1,200. Plans by B. Price Davies, City S.

Capenhurst.—E. M. Parkes (F.), County Architect, The Castle, Chester, prepared plans for brick hutments as additions to remand home, at £12,500.

Gainsborough. — Local branch of St. John Ambulance Brigade propose new headquarters.

Gateshead.—Plans approved for temporary addition for Jarrow Metal Industries, Ltd.—Local Council of Social Service promoted plan for 20 or 30 houses to accommodate old people.

Hebburn.—U.D.C. to repair main sewer, at £6,100. Taylor & Wallin, 13, Lansdowne-ter., East Gosforth, Newcastle-on-Tyne, Engineers.

Hebburn-on-Tyne. — Bede Metal Co., Ltd., to extend offices. Plans by L. J. Couves & Partners, Westfield-av., Gosforth, Newcastle-on-Tyne.

Hereford.—H. Skyrme (L.), 138, Widemarsh-st., is architect for nursery for E.C.

Lancashire.—E.C. propose alterations to existing kitchens at Westhoughton and Unholland Grammar school, at £297, also alterations for dining-rooms at Haverthwaite and North Meols Banks schools. Plans by A. Evans, County Architect.

Manchester. — C.C. propose self-contained dairy at Litchford Farm, Blackley. Plans by G. Noel Hill (F.), City Architect.

Manchester. — Health Committee propose nursery at Plymouth-grove and adaptation of St. James' school, Collyhurst, for day nursery.—T.C. approved: Additions for nurses' quarters at emergency hospital: additions McCutcheon & Walsingham, 1,180, Chester-rd., Stretford, architects; additions for David Moseley & Sons, Ltd.

Newcastle-on-Tyne. — S. Allen & Co., 109, New Bridge-st., to erect temporary packing dept.

Newcastle-under-Lyme.—T.C. approved: Additions to dairy, May-st., for N. A. Pepper.

Northampton.—T.C. approved: Extensions to sub-station; alterations for Painton & Co., Ltd.

Rotherham. — T.C. approved: Extensions for Steel, Peech & Tozer, Ltd.; workshop for Guest & Chrimes, Ltd.; extensions for Rotherham Forge and Rolling Mills, Ltd.

Rothwell.—U.D.C. propose 40-type prefabricated buildings on six sites for war time nurseries. Plans by F. Hartley.

St. Pancras.—M.H. approved scheme for extensions to Margaret club and day nursery.—M.H. unofficially approved scheme for Kentish Town day nursery.

Salford. — T.C. propose conversion of premises at Pendleton into hostel.—Plans approved for nursery on Langworthy estate East for Health Committee, at £823.—T.C. to erect male sanitary conveniences in Ordsall Park.

Sheffield.—T.C. approved: Offices for Thomas Firth & John Brown, Ltd.; conversion of premises for Commercial Assurance Co., Ltd.—E.C. propose 15 "Maycrete" huts together with heating, lighting and separate lavatory accommodation for temporary schools, at £23,706. Plans by W. George Davies (F.), City Architect.

Sunderland.—Dawson & Usher, Ltd., to erect sub-station.—Hetton and Joicey Collieries, Ltd., propose alterations and additions to offices.

Warrington.—T.C. approved: Alterations for J. & W. N. Hutchings; additions for Winwick Street Tannery Co.

West Riding.—C.C. propose structural alterations to Hole Fold Farm, Keighley.

Whalley. — Manchester Public Health Committee propose extensions to grocery and provision stores at Langho Colony for mental defectives, at £475. Plans by G. Noel Hill (F.), City Architect.

York.—T.C. approved: Additions for Rowntree & Co., Ltd.—T.C. to prepare scheme for day nurseries.

BRITISH RESTAURANTS AND CANTEENS

Alnwick.—Miners' Welfare Commission propose canteens at Shilbottle Coal Co.'s Grange and Whittle Pits. Plans by G. & M. P. Reavell, F. & A.R.I.B.A., Alnwick.

Bishop Auckland. — U.D.C. to proceed shortly with B.R. plan.

Brighouse. — T.C. approved: Works canteen and fire-watchers' accommodation for Ormerod Bros., Ltd.

Dukinfield.—E.C. propose canteens at three schools, and extensions to the existing canteen at Bates-st. Plans by E. N. Stannion, B.S.

Ferryhill (Co. Durham).—M. of F. to establish cooking depot.

Gateshead.—G. R. Smith & Partners, 3, Winchester-st., South Shields, are architects for canteen on Team Valley Trading Estate.

Jarrow.—Amended plans to be prepared for feeding kitchens at Monkton and Simonside. J. S. Weir is B.E.

Keighley.—T.C. propose adaptation of premises for two additional B.R. Plans by E. G. Felgate (A.), Boro' Architect.

Lancashire. — E.C. propose canteens at two schools. Plans by A. Evans, County Architect.

Millom.—R.D.C. to adapt St. George's hall as B.R.

Newcastle-on-Tyne.—City Council considering sites for two more B.R. Plans by R. G. Roberts, City Architect.

Northants. — E.C. propose canteens at three schools.

Rotherham.—T.C. approved: Canteen to works for Steel, Peech & Tozer, Ltd.

Rowley Regis.—T.C. propose provision of two additional B.R. Plans by L. G. Taylor, B.S.

Sedgley.—T.C. approved: Canteen for Gibbons (Dudley), Ltd.

South Shields. — Amended plans prepared by E.C. for central kitchen for school meals.

Stockton-on-Tees. — E.C. considering adapting part of Oxbridge-av. Secondary school as cooking depot.

Sunderland.—Matkin & Hawkins, Fawcett-st., prepared plans for canteen and store for R. W. Collins.

Warrington. — Gas Committee propose canteen at gas works. Plans by J. Y. Hughes, B.S.

West Bromwich.—T.C. propose adaptation of premises at Carter's-green for central community kitchen. Plans by J. G. Jefferson, B.S.

Wolverhampton.—T.C. approved: Canteen for Bayliss, Jones & Bayliss.

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TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Tuesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government Departments.*

Gateshead.—Road works, Shipcote-la., for T.C.: *Direct labour, £670.

Gateshead.—Rebuilding and reconditioning warehouse, for Binns, Ltd.: *John Milne & Sons, Ltd., Coatsworth-rd., Gateshead.

Keighley. — Internal painting, offices, College-st., for T.C. E. G. Felgate, Boro. Architect: *J. Sunderland & Son, Cook-la., Keighley, £87.

Lancashire.—Works, for C.C. Additional kitchen equipment for canteens at Chorley, Clitheroe Grammar Schools and Stretford Technical College: *Universal Kitchen Equipment Co., Ltd., 8, Cauncest., Blackpool, £161.

Leyburn. — Laying of water pipes, for R.D.C.: *Sanderson & Co., Leyburn, £153.

Lexden and Winstree.—Laying of new drains and conversion of pail closets into water closets at East Donyland, for R.D.C. A. Hurd, Rebow-chbrs., Sir Isaac's Walk, Colchester, S.: *Everitt & Sons, Colchester, £436.

London (Air Ministry). — Contracts placed to the value of £500 or over for week ended January 10:—

Civil engineering work: M. J. Gleeson, Ltd., Cheam; Sir A. McAlpine & Son, Ltd., Hooton; Sir R. McAlpine & Sons, London, W.1; L. J. Speight & Partners, Ltd., Thatcham.

Building work: J. Cryer & Sons, Ltd., Fleetwood; Arup & Arup, Ltd., London, W.1.

Electrical work: Metropolitan Electric Cable & Constrn. Co., Ltd., Chadwell Heath.

General maintenance work: Downing Rudman & Bent, Ltd., Chippenham; H. Ashton, Barton-on-Humber; Ernest Coleman, Ltd., East Kirby.

London (War Dept.). — Following are contracts placed by War Dept. at January 10:—

Northumberland: Concrete work, H. Kindred, 145, West-rd., Newcastle-on-Tyne.

Northamptonshire: Hutting (erection), two contracts, Bosworth & Wakeford, Ltd., Daventry; A. Glenn & Sons, Ltd., Chaucer-st., Northampton.

Berks: Miscellaneous works, Roger Miller & Co., Ltd., 12, Pownall-gdns., Hounslow.

Kent: Miscellaneous work, J. W. Ellingham & Co., Ltd., 4, Granada House, Gabriels Hill, Maidstone.

Surrey: Miscellaneous works, C. H. Coates, Ltd., 289, Ewell-rd., Surbiton, Surrey.

Somerset: Building work, W. J. Channing & Son, Highbridge-rd., Burnham-on-Sea.

Co. Antrim: Hutting (erection), McGrath Bros., Queen-st., Lurgan, Co. Armagh.

Manchester. — Additions to works and conveniences, for T. M. Hope & Sons, Ltd. R. Martin (F.), 90, Deansgate, architect: *Henry Green & Sons, Stocks Farm, Cheetham Hill-rd., Cheetham, Manchester.

Manchester. — Additions to works, for Evans, Bellhouse & Co., Ltd. : *F. J. Gibson, Holwood, Holly-rd., Wilmslow, Ches.

Middleton. — (1) Alterations to library reading-room, (2) alterations to cloakrooms at public baths, for T.C. P. Heaton, Acting Boro. Architect : (1) *R. Halliday & Co., Market-pl. ; (2) *J. H. Heywood & Son, Cheetham-st. (Both of Middleton.)

Newcastle-on-Tyne.—Painting, etc., at Holy Jesus Hospital, for City Council : *M. Alexander & Sons, Haymarket-la., Newcastle-on-Tyne, £254.

Newcastle-on-Tyne.—Joiner's shop and boiler-house. Hetherington & Wilson, County-chbrs., Newcastle-on-Tyne, architects : *Stephen Buy, 221, Westgate-rd., Newcastle-on-Tyne.

Newcastle-under-Lyme. — Nursery at Cross Heath, for T.C. : ‡T. Hughes, £2,243. (Subject to approval of M.H.)

Wolverhampton.—Three "Maycrete" huts, together with lavatory block and further air raid shelters, on Three Tuns playing field : *E. G. Lester, Ltd., £3,446.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 117, Chancery-lane, W.C.2, from the documents available at the Companies Registry.

JOHN KENT (PLASTERERS), LTD. (371527). Regd. December 27. Nom. cap. : £2,000. Dirs. : To be appointed by subs. J. E. Risebrook, 53, Corringham-rd., Wembley Park; and Joyce P. A. McKenzie.

ALLIED BUILDERS CORPORATION, LTD. (371557). Regd. December 30. 9, Idol-la., Eastcheap, E.C.3. To form an association of building contractors, to carry on business of builders and builders' merchants, etc. Nom. cap. : £10,000. Dirs. : A. S. Comyns Carr, K.C., 1, Temple-gdns., E.C.4; C. C. Wyllie, 13, West Hill, Highgate, N.6; L. E. Knifton, Langhedge-la., N.18; P. H. Bates, "Kenilworth," Nelmes-cres., Hornchurch, Essex; and H. H. King, 7, Victoria-st., S.W.1.

A. WILKINSON & COMPANY (DERBY), LTD. (371556). Regd. December 30. 28, Green-la., Derby. Timber merchants, sawmill proprs., etc. Nom cap. : £500. Dirs. : Not named.

DUMPER PLANT, LTD. (371487). Regd. December 26. 7, London-rd., New Malden, Surrey. To hire or acquire, let and dispose of plant, etc. Nom. cap. : £100. Dirs. : F. J. Fish, 56, Westbury-rd., New Malden, Surrey; and E. J. Fish.

CLINTON-SCOTT, LTD. (371,658). Regd. January 3. Morden Factory Estate, Morden-road, Merton, S.W.19. To acquire part of Direct Spray Process Co., Ltd., and to carry on business of builders, decorators, etc. Nom. cap. £3,000. Dirs. not named.

J. WALTERS & Co., LTD. (371,666). Regd. January 3. 47-49, Howard-street, Birmingham, 19. Makers of packing cases and wooden buildings, etc. Nom. cap. £2,000. Dirs. : H. Kimberley and Mrs. A. D. Kimberley, 90, South-road, Handsworth, Birmingham, 19.

AULAND BUILDING SERVICES, LTD. (371,709). Regd. January 6. Advisers, service specialists and contractors to the building trade, etc. Nom. cap. £500 Dirs. : Mrs. F. M. Ramsay and Kathleen N. Ramsay, 54, Beversbrook-road, N.19.

VYVYAN (BUILDERS), LTD. (371,736). Regd. January 6. 32a, Wilmot-road, Leyton, E.10. To take over a business carried on at 70, St. John's-road, E.17, by W. J. Povey. Nom. cap. £500. Dir. : E. F. Vyvyan, 11, Eastfield-road, Walthamstow.

C. R. LUCAS & SON (LINCOLN), LTD. (371,713). Regd. January 6. 385, High-street, Lincoln. Builders, contractors, etc. Nom. cap. £6,000. Dirs. : C. L. Lucas, 2, Sibthorp-street, Lincoln, R. Lucas and Edith M. Lucas.

R. BEST & SON, LTD. (371,760). Regd. January 7. Builders, etc. Nom. cap. £1,000. Dirs. not named. Sub. : R. E. Best, Rodmead, Batheaston, Bath.

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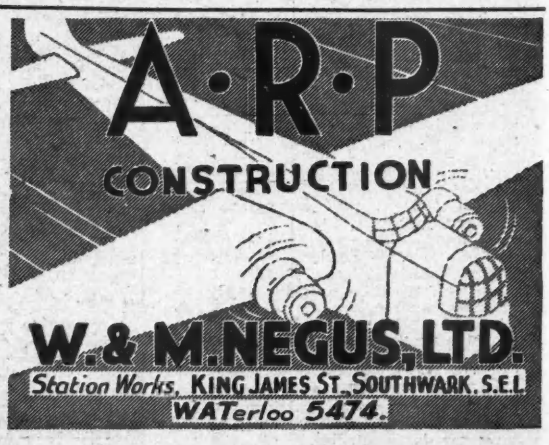

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